ASL

Australian Society for Limnology Inc.

NEWSLETTER

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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 650 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

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Material for publication in the **Volume 40 # 2 Issue** of the Newsletter should be sent to the Editor (Address on back page) by **Friday 31st May 2002.**

Volume 40 # 3 contributions due Friday 30th August 2002.

Volume 40 # 4 contributions due Friday 29th November 2002.

All articles should be forwarded, if possible, as unformatted text on a disk or via email.

ASL Home Page - http://www.asl.org.au/

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Membership Information and a list of the Regional Executive Members can be found at the back of this Newsletter.

EDITOR'S REPORT

Greetings once again.

This edition of the ASL newsletter is dedicated to Bill Williams –whose death has touched so many members of ASL. An obituary has been written by Keith Walker, and Ian Bayly shares with us the early days of Australian limnology with a tribute to Bill.

It reminded me of a quote from "Tuesdays with Morrie" by Mitch Albom (1997).

"A teacher affects eternity; he can never tell where his influence stops" ..... "The teaching goes on".

I would like to thank our many contributors and it is pleasing to note that the number of unsolicited contributions is increasing. I welcome all input, so if you feel the need chat about your recent field trip, or would like to let off some steam regarding the state of science funding, the ASL newsletter can provide an avenue for you to do so.

One of our regular contributors, the one and only Tim Doeg, has been too busy and hasn't had time to scribble anything for this edition. I've let him off this time.

Please note the new postal address for all correspondence to Margaret Hart (Treasurer/Membership Officer) is now PO Box 605, MULGRAVE VIC 3170.

And to end on a lighter note and a bit of a giggle:

Lessons from dogs:

1. Never pass up the opportunity to go for a joy ride.
2. Allow the experience of fresh air and the wind in your face to be pure ecstasy.
3. When loved ones come home, always run to greet them.
4. When it's in your best interest, practice obedience.
5. Let others know when they have invaded your territory.
6. Take naps and stretch when rising.
7. Run, romp and play daily.
8. Eat with gusto and enthusiasm.
9. Be loyal.
10. Never pretend to be something you are not.
11. If what you want lies buried, dig until you find it.
12. When someone is having a bad day, be silent, sit close by and nuzzle them gently.
13. Avoid biting when a simple growl will do.
14. When you're happy, dance around and wag your entire body.
15. Delight in the simple joy of a long walk.

Cheers

Rhonda Sinclair
Rhonda.Sinclair@csiro.au

PRESIDENT'S REPORT

Hi all, By now our spiffy new brochure has hopefully fallen into your lap (if you get the newsletter electronically it will be sent to you shortly). The excellent work of Abbie Spiers (who encouraged and coordinated the submission of photographs and editted the text), Pierre Horwitz (who coordinated graphic design and printing) and all you wonderful folk who submitted photographs. Thanks all. A definite improvement on our previous brochure but I ask you all not to just give a quick lookover and dump it to lie idle in the strata of your in-tray, but to make it useful. Pin it upon your staff/student noticeboard, give it to someone who needs it ... The purpose of this brochure is to promote ASL and membership – please use it. We have also printed A2 size posters, which are similar in design to the back of the brochure. We are currently formulating the best method to use both posters and brochures. If you have any ideas by all means contact me.

The new ASL Early Career Excellence Award is now up and running! The details are in this newsletter and on the webpage. Thanks to Andrew Boulton for developing this. I urge you to nominate people for this award. Quite a number of likely nominees pop into my head and I'm sure you can think of one also. Nominees for the ASL Medal are also called for, in time for this years Congress in September in Margaret River, WA. More about the congress in this newsletter. Read on...

A sad Australia Day this year with the passing of Bill Williams. He will be sorely missed. Keith Walker and Ian Bayly have both written excellent obituaries in this newsletter. I took the liberty of sending a card to his wife Ann on behalf of ASL and we published a notice in the Adelaide Advertiser.

Not to finish on a sad note, Ben Kefford and his team are well underway with the ASL policy document on salinity. If you are interested in contributing to this or wish to coordinate a policy document on another topic contact Deb Nias (contact details at the back of this newsletter).

That's all for now. Look forward to seeing you amidst the wildflowers, vineyards and of course streams and wetlands of Margaret River.

Cheers, Jane (February 28, 2002)

WEBMASTER'S REPORT

ASL Website News

The newsletter password for this year - 2002 - has been changed (mainly to make it difficult for those who aren't members and who have managed to get themselves the password).

The new password is:
limno58

the logon name will stay the same as:
asl_news

Don't forget, the ASL website is your site - so any limnology-related information or photos that you can spare would be very welcome, including any feedback as to information that would be handy to members. If you, as an ASL member, wish to advertise your work on the ASL website, or even wish to advertise an available job opportunity, please phone or email me.

Cheers,

Simon Josey, ASL webmaster
email: webmaster@asl.org.au
Phone (02) 6270 7665

OBITUARY

VALE BILL WILLIAMS
1936 2002

Emeritus Professor WD (Bill) Williams died on Australia Day 2002, after a long battle with acute myeloid leukaemia.

Bill was a founding member of the *Australian Society for Limnology* and a member of the society's executive over many years. Although he influenced many facets of limnological science, his passion was the saline lakes that dominate the Australian landscape. "Salt lakes", he would say, "are a marvellous resource for scientists, but very few of us recognise their intrinsic values".

Bill grew up in Liverpool, during the harsh years of the Second World War and its aftermath. With a deep affection for the English Lakes District, encouraged by Macan and Worthington's Life in Lakes and Rivers (Collins, 1951), and driven by a fierce inner determination, Bill graduated as a limnologist from the University of Liverpool in 1961. There he was a protégé of Professor HBN (Noel) Hynes, a pioneer in river ecology who later went to Canada and, through his association with Bill, also developed a great affection for Australia. Bill's PhD was devoted to the ecology, taxonomy and biogeography of an aquatic isopod, *Asellus*. He completed his thesis in record time, by sleeping during the day and working at night.

In 1961, with his bride Anne, and still with a very English demeanour, Bill arrived in Australia to join the new Department of Zoology & Comparative Physiology at Monash University, chaired by Professor AJ (Jock) Marshall. Encouraged by the good-natured chivvying of colleagues at Monash, Bill soon adapted to his new environment and was evermore an Australian.

He remained at Monash for 14 years. From the outset he developed a close working relationship with Ian Bayly, a recent arrival from New Zealand, and together they became pioneers in Australian limnology. The pair explored the farthest corners of the continent and forged links with other pioneers like Peter Tyler in Hobart, Hilary Jolly in Sydney, John Lake in Narrandera and Alan Weatherley in Canberra. One of their initiatives, in 1961, was to help found the *Australian Society for Limnology*. Today, the ASL has a membership of more than 600.

The many saline lakes of western Victoria held a particular fascination for Bill and Ian, and their beloved lakes soon became a magnet for students. Part of the reason was that, in a time when ecology had an 'ecosystem' focus, saline lakes were attractive because they contained relatively few species, notwithstanding their high productivity, and so appeared to be less complex and more easily investigated than other ecosystems. Sadly, many of those lakes eventually fell to unsympathetic development, particularly irrigated agriculture, and they are now a shadow of what they were.

During his years at Monash, Bill and his colleagues all exercised a strong sense of social responsibility, seen in their contributions to public debates. For Bill especially, the flooding of Lake Pedder in Tasmania was a grievous loss that he strongly contested and never forgot.

At the time he left Monash in 1974, Bill had been promoted to Reader. With an already prodigious record of publications, including the seminal first edition of *Australian Freshwater Life* (1968) and *Inland Waters and their Ecology* (1973, with IAE Bayly), and as father-figure to a generation of new limnologists, Bill left Monash to join the University of Adelaide, where the Chair in Zoology lay vacant following the retirement of Professor HG Andrewartha. He took up that post in January 1975.

At the helm of the new department, Bill's good humoured, avuncular nature extended well-beyond colleagues in limnology. Students in all areas of zoology will remember his encouragement, perhaps as kindly words over a sherry in the chairman's office, a letter of support or names dropped at those critical times when people's career paths are set. Within the limnological realm, Bill's prowess as an editor assumed legendary status. We may never know how many of today's present generation of water resource professionals have benefited from his reworking of a once-shabby manuscript! And many more received the same benefit through papers submitted to the journals, conference proceedings and books that issued from his influence.

Throughout his tenure at Adelaide, Bill continued his extraordinary output of literature, eventually accruing more than 250 articles, book chapters and books. Amidst the pressures of chairmanship, he could always find time to write, as he loved to do, but it usually was after dinner at home, when he could retreat to his den and work on into the early morning.

At Adelaide, Bill became more involved in matters related to the management of water resources, seen in edited books like *An Ecological Basis for Water Resources Management* (1986) and *Limnology in Australia* (1986, with P De Deckker), and his contributions to government committees. He was proud to receive a Doctor of Science degree from his *alma mater*. At that time too, he extended his global influence, spending time in the UK, USA, Canada, Germany, South Africa, Japan, Indonesia, India and Hong Kong. In journeys to Kazahkstan and Uzbekistan, discussions over the fate of the Aral Sea left no less an impression on him than did the saga of Lake Pedder. Bill's global outreach was such that, if limnologists in other countries were asked to name a colleague in Australia, he surely would be the popular choice. As an advocate for the Australian environment, he insisted that we should look at our lakes and rivers afresh, and not through the eyes of scientists from the Northern Hemisphere, as some textbooks encourage us to do. Thus, 'Limnological imbalances: an antipodean perspective' (*Freshwater Biology* 20: 407-420, 1988).

Bill never much enjoyed University administration because it diverted him from science. He did appreciate the value of his role as Chairman, however, as a means to expedite action and overcome inertia. Eventually, the increasing demands of administration and the changing nature of Universities, under external political pressures, were among reasons that led him to retire in 1994. The change was a release for pent-up energy that led him into important new roles with the South Australian Fisheries Research Advisory Board and the National Wetlands R&D Program. He donated his priceless library of reprints, spanning many shelves, to the South Australian R&D Corporation (SARDI). He retained an academic role as Emeritus Professor, but preferred to keep a low profile in a department that had new paths to explore.

Fourteen months ago, Bill learned that he had leukaemia. In the months that followed he continued to read and write, and many associates received from him drafts, manuscripts or proofs needing their attention. "I've had a good life", he said in November 2001, "and if I have one professional regret it is that I did not speak out more strongly about the destruction of 'Spaceship Earth'". Although Bill enjoyed a brief period in apparent remission, it was not to last. He died in Brisbane on 26 January.

Bill Williams made a major contribution to science, and no less a contribution to the welfare of other scientists. Academics sometimes represent the lifetime achievements of a colleague as a tree, and in that regard Bill's lineage is well-grown. The spreading branches and branchlets represent connections to many hundreds of water resource professionals in Australia and around the world. With roots in the past, branches in the present and seeds for the future, long may that tree flourish.

Bill is survived by his wife Anne, brother John, sons Simon and Richard and two grandchildren.

Keith Walker
CRC for Freshwater Ecology, Department of Environmental Biology,
Adelaide University

4 February 2002

Notice placed in *The Adelaide Advertiser* on Wednesday 30 January 2002.

Williams William (Bill) Prof.

The Australian Society for Limnology (study of inland waters) regrets the passing of one of its founding members Professor Bill Williams, who died Saturday 26 January. Bill was the first Secretary/Treasurer of ASL, President in 1972-73 and a recipient of the ASL medal. Bill was also an indefatigable advocate for Australian limnology and put Australia on the international limnological map through his books and other publications.

Bill was a pioneer Australian limnologist and will be sadly missed by his many friends and colleagues both within Australia and overseas.

The Early Days of Australian Limnology with a Tribute to the Late Prof. W.D. (Bill) Williams

I should like to pay tribute to my colleague and friend Bill Williams who died on 26 January 2002. This is not a formal or comprehensive obituary (an excellent one of which appeared in *The Australian* of 20 February), but a limited contribution which deals with only a segment of Bill's working life.

I was closely associated with Bill during the early days of Australian limnology and can attest to his boundless energy and enthusiasm for his chosen discipline. Williams was a pioneer limnologist and one of the founders of the ASL. What follows are some of my recollections of the very early days of limnology in Australia.

In February 1959, I left Auckland University College (as it was then) to take up a lectureship in the Department of Zoology, University of Queensland. The following year, Bill (ex University of Liverpool) was appointed to the inaugural staff of the Department of Zoology and Comparative Physiology (as it was then) at Monash University (which commenced teaching in 1961). In 1960, Bill wrote to me in Brisbane to open up a dialogue (which lasted for decades) and explore ways in which we might co-operate. We were among the very few in the university sector at that time who would describe themselves as limnologists. Another was Allan Weatherley at the Australian National University.

In 1961, Hiliary Jolly, a limnologist who had trained in New Zealand before taking up employment with the Sydney Water Board, was the prime mover in organizing a meeting in Canberra that year to discuss the possible formation of an Australian limnological society. Bill and I both attended this meeting which decided to proceed with the idea. The first meeting of the Australian Society for Limnology took place at Monash University in May 1962. Aubrey Nicholls (CSIRO Fisheries Dept) was elected President, John Lake (NSW Fisheries) became Vice-President and the remainder of the Executive Committee comprised Bill Williams (Sec. Treasurer), Allan Weatherley (Newsletter Editor), Hiliary Jolly, Edgar Riek, Jim Wharton and myself.

Following the formation of the ASL, I remained at the University of Queensland for a further three years, working mainly by myself, before deciding to join forces with Bill at Monash. Some of the highlights of this 3-year period deserve further mention. In August, 1963, I went to Fraser Island to study some of its numerous lakes. I was accompanied on this trip by Owen Kelly and Gordon Grigg who, at that time, was an Honours student studying the Queensland Lung-fish under the supervision of the late Dr M. Bleakly. Gordon went on to greater things; he is now Professor of Zoology at the University of Queensland. The results of the Fraser Island study were published in early 1964 (AJMFR **15**: 56-72). During 1964 I supervised Brian Timms's Honours work on the zooplankton of a pond on the St Lucia Campus of the University of Queensland. Brian went on to take out a PhD and a DSc. and become a leading Australian limnologist. In March 1964, I travelled to Victoria to start work with Bill on saline lakes in the Western District and in the Beachport-Robe region of South Australia. This eventually resulted (1966) in the publication of our major joint paper, "Chemical and biological studies on some saline lakes of south-east Australia" (AJMFR **17**:177-228).

In January 1965, Owen Kelly (a Queensland Zoology Dept technician), Bill Williams and I undertook a memorable trip to study lakes in tropical Queensland. First we went to the north-east of Aramac to study four lakes associated with the headwaters of the Thomson River. Then we proceeded north to Lake Buchanan, a large saline lake between Aramac and Charters Towers. Several lakes on the Atherton Tablelands were next on the agenda.

The three of us then drove to Cooktown to try and arrange boat transport to Cape Bedford to study some coastal dune lakes. We started our enquiries at one of the local pubs which, as subsequent events were to prove, may not have been the wisest approach to the problem! Anyway we found a rather dishevelled character who said that (for a fee) he would take us up the next morning and indeed he did. We were deposited on the beach near Cape Bedford at an early hour and we spent the whole day in the hot (January) tropical sun working on five dune lakes. The clear arrangement was that our boatman would return and collect us from the beach at 5pm. However, he failed to show, and heavily laden with limnological gear and water samples we started walking back to Cooktown. Bill picked up a very attractive but quite large glass fishing float which he was very keen to take home as a souvenir. However, after a few kilometers it became too heavy for him and after much cursing threw it away. We were soon overtaken by darkness and since only a day trip was intended there was precious little food. To cheer ourselves up we decided to light a fire and a map was sacrificed for this purpose. Early the following morning we resumed our march back to Cooktown and close to mid-day our delinquent boatman come stooging along the coast and spotted us (at this stage we were half-way back to Cooktown). He was quite unperturbed and said simply that he had had "a heavy night". The "night" apparently also included the previous afternoon! We had a few rather terse things to say to him and to pacify us the fee was reduced by 50%!

After Cooktown, we turned our attention to a series of lakes between Ingham and the Great Dividing Range. Finally, we visited four lakes in the vicinity of Rockhampton before returning to Brisbane. It had been a memorable and very happy expedition. For various reasons the chemical results from this excursion were not published until 1972 (AJMFR **23**:121-131).

Only two months after the Bayly-Kelly-Williams expedition to north Queensland, I left Queensland University and took up a position at Monash in the same Department as Bill at the beginning of April 1965. This was the start of a decade during which Bill and I worked in close collaboration. In 1968, we were instrumental in having a small field station built at Alvie to the north-west of Colac. This was located near the heart of the Western District Lakeland, and was close to the south-eastern shore of Lake Corangamite (the largest permanent salt lake in Australia). There was just enough money to produce a bare building, so I hired a machine and sanded the floors and Bill and I painted the floors an the interior walls. This modest field station was used quite intensively by Brian Timms, Keith Walker, Geoff Brand, Mike Geddes, Richard Marchant, Sayed Hussainy and others while carrying out field work for their PhD's. During the late 1960's and early 1970's we worked on our joint book *Inland Waters and their Ecology* which was published in 1973.

At the end of 1974 we went our separate ways; Bill accepted the Chair of Zoology at the University of Adelaide and I remained at Monash. A decade of close collaboration thus came to an end. It had been a very stimulating and happy partnership. We did, of course, remain in contact but the former closeness could not be maintained. Perhaps someone at Adelaide University would like to continue this story, starting with Bill's arrival there at the beginning of 1975.

Let me conclude by summarizing Bill's major contributions to the scientific world and to society at large. These may be grouped into the following major areas:

(1) He was an extremely productive and tireless worker who made outstanding contributions to Australian limnology and especially the ecology of salt lakes. His long list of publications speaks for itself.

(2) He was a great collator of the highly scattered literature dealing with the invertebrates of Australian inland waters and a skillful constructor of practical taxonomic keys. Witness such extremely useful works as *Australian Freshwater Life*. This work has been of great utilitarian value to both students at a wide variety of levels, and to professional limnologists.

(3) He put a prodigious and sustained effort into some quite daunting editorial tasks. Consider the impressive list of works he has edited from the *Textbook of Zoology* (Macmillan 1972) through to the *Proceedings of SIL* Volume 27 (2002)

(4) He made worthwhile contributions not only to the conservation of inland waters but also to conservation in a general sense. For example, he served for a period as a South Australian Councilor to the Australian Conservation Foundation.

(5) He made significant contributions to Australian intellectual or philosophical life in a broad sense. Note, for example, his recent contribution entitled *The Meaning of Life* (Australian Biologist).

Bill, I pay tribute to you and your accomplishments and will never forget the excitement of our shared exploits (and escapades!) during the early days of Australian limnology. Vale.

Ian A.E. Bayly
Flinders Island

February 2002

FIRST ANNOUNCEMENT ~ ASL 2002 MARGARET RIVER

The 2002 ASL Congress will be held in Margaret River (Western Australia) from the 29th September to 3rd October 2002.

Margaret River is approximately 3 hours drive south of Perth. It is wildflower season and Margaret River will be spectacular at this time of year (the wine and wetlands/rivers aren't bad either). We will be organising buses to the venue from Perth, as it is no longer possible to fly from Perth to Margaret River, due to the recent airline troubles.

We have arranged a broad range of accommodation options to suit all budgets. The congress will be located in the Margaret River township within walking distance of all accommodation options. There will be a welcome drinks and registration session on the Sunday (29th), the congress will then run on the Monday through to closing late on the Wednesday (2nd), return buses will leave for Perth on the Thursday morning (3rd). We hope to provide an exciting range of social activities and excursions. Running in Perth after ASL will be ASPAB and the Australian Algal Workshop (organised by Jacob Johns - RJACOBJO@cc.curtin.edu.au).

A steering committee with representatives from Perth's public Universities and related State Agencies has been established. We hope to put more information on the ASL website soon. In the next edition of the newsletter we also hope to include the full details of the congress.

I hope this information helps ASL'ers arrange their timetables to be able to make it over to WA. Anyone wanting to organise a workshop to run in association with the congress is asked to contact Mark Lund on phone (08) 9400 5644 or email: m.lund@ecu.edu.au as soon as possible.

Thanks

Mark Lund
Chair of the 2002 ASL Congress Organising Committee
School of Natural Sciences, Edith Cowan University
Tel. (08) 9400 5644
Fax. (08) 9400 5509
Email: m.lund@ecu.edu.au

A joint ASL/NZSL conference is planned to be held in Warrnambool from 1 to 5 December, 2003. Planning is in the early stages and more information will be available in later newsletters.
Contact for the congress is Belinda Robson <brobson@deakin.edu.au>.

New Full Colour Brochure for ASL!

The Australian Society for Limnology Inc. have printed a new coloured brochure to promote ASL, to assist a concerted effort by you, our current members, to increase awareness and membership of the Society.

WE NEED YOU!

To do the right thing, don't just have a quick read and let it gather dust on your shelf, use it to the Society's advantage - pass it onto students that you are supervising; pin it up at relevant departmental noticeboards; take a bundle along to the next conference you attend.

Pin up on your noticeboard

If you require additional copies of the brochure, please contact:

The President ASL,
Dr Jane Chambers,
Environmental Science,
Murdoch University, Murdoch WA 6150

Ph: 08-9360 2739, Fax: 08-9310 4997, Email: chambers@essun1.murdoch.edu.au

AUSTRALIAN SOCIETY FOR LIMNOLOGY

EARLY CAREER EXCELLENCE AWARD

CALL FOR NOMINATIONS

The Australian Society for Limnology Early Career Excellence Award aims to reward and encourage excellence by an early career limnologist who has contributed substantially to Australian limnology and/or aquatic ecosystem management. "Early career" is defined broadly as $\leq$ 10 years of involvement in a limnological career, and could be judged as commencing with postgraduate work in limnology or membership of ASL.

Any early career researcher who is a member of ASL may be nominated for the Award. Nominations may only be made by financial members of the Society and will hold for up to three years after nomination. The nomination must be in writing, confidential, and must be seconded by a financial member of the Society. Nominations must address the relevant selection criteria and a current copy of the nominee's CV should be included to support the case if deemed appropriate. Each nomination will be assessed by a Committee of ASL, which is chaired by the President.

An award is not necessarily made each year. Nominations for the Early Career Excellence Award are accepted at any time, but for the Award to be made for that year, the nomination must be made three months before the Congress. For consideration for the 2002 Congress, the closing date for nominations is 29 June 2002.

Nominations should be forwarded to Dr Jane Chambers, (President of ASL), Environmental Science, Murdoch University, Murdoch, 6150, Western Australia.

Guidelines and Criteria for the Early Career Excellence Award are attached on the pages 18 and 19.

AUSTRALIAN SOCIETY FOR LIMNOLOGY MEDAL

CALL FOR NOMINATIONS

The Australian Society for Limnology Medal commemorates Hilary Jolly, a founding member of the Australian Society for Limnology, and is presented to a person who in the opinion of the Society, has made an outstanding contribution to Australian Limnology. The ASL Medal (formerly the Jolly Award) has become ASL's (and arguably Australia's) most prestigious prize in limnology, considered by members to indicate overall scientific excellence and outstanding achievement.

Any person may be nominated for the Medal, but nominations may only be made by financial members of the Society. The nomination must be in writing and must be seconded by a financial member of the Society. Nominations must address the relevant selection criteria and a current copy of the nominee's CV should be included if deemed appropriate. Each nomination will be assessed by a Committee of ASL which is chaired by the President.

An award is not necessarily made each year. Nominations for the Medal are accepted at any time, but for the Medal to be made for that year, the nomination must be made three months before the Congress. For consideration for the 2002 Congress, the closing date for nominations is 29 June 2002.

The full regulations governing the Medal are outlined below.

Nominations should be forwarded to Dr Jane Chambers (President of ASL), Environmental Science, Murdoch University, Murdoch, 6150, Western Australia.

The Regulations and guidelines governing the ASL Medal are outlined on pages 20 and 21.

THE ASL EARLY CAREER EXCELLENCE AWARD

PREAMBLE

At the ASL congress in Darwin in 2000, it was suggested that ASL consider providing an award to encourage and reward 'young achievers' in the field of limnological excellence. This could be analogous to the Hynes Award offered by the North American Benthological Society for "excellence in benthic research by an investigator who has recently completed a degree program". Terms and a name for this Award were discussed at the AGM of ASL in Moama in 2001, and the Award will be available for the first time in 2002. The following guidelines were developed with a view to maintaining a consistent procedure for the Society for awarding the Australian Society for Limnology Early Career Excellence Award.

AIM OF THE AWARD

The Award aims to recognize and encourage excellence by an early career limnologist (defined below) who has contributed substantially to Australian limnology and/or aquatic ecosystem management.

GUIDELINES

"Early career" is defined broadly as $\leq$ 10 years of involvement in a limnological career, and could be judged as commencing with postgraduate work in limnology or membership of ASL. This guideline would be applied at the discretion of the Committee but seeks to differentiate contenders from those for the ASL Medal who are commonly more senior in their career.

Criteria for the Award include:

(i) Current financial membership of ASL;

(ii) Evidence of professional limnological excellence, potentially including successful completion of a Masters or PhD thesis in limnology within the last 10-15 years;

(iii) Tangible evidence of excellence represented by one or a combination of: high quality published papers or other scholarly media; substantial improvements in 'on-ground' water resource management; peer recognition by invitations to speak at conferences or to contribute to special session; overseas experience applied to Australian limnology; excellence in communication, extension and education in limnology.

PROCESS OF SELECTION

Confidential nominations by a member of ASL and seconded by another financial member, must be made to the President. To be considered for a given year's Award, the nomination must be sent to the President at least three months before the Annual Congress. The written nomination must include evidence for the above criteria but must be kept confidential from the nominee, and could include a current CV to support the case if deemed appropriate. Nominations will be called for each year and an application will hold valid for three years unless successful. There need not be an Award made every year. The winner will be announced at the Annual Congress, and a short report will be published in the newsletter.

THE ASL EARLY CAREER EXCELLENCE AWARD (continued)

PANEL MEMBERSHIP

The Panel, comprising at least three ASL members, is chaired by the ASL President who has the power to co-opt panel members as she or he sees fit. It is expected that at least one Panel member will be a previous winner of the Award. In establishing the Committee, there should be an appropriate balance in terms of gender, discipline and backgrounds of research/management, but must ultimately ensure that the Committee has experience in the judgment of limnological excellence. No one person should sit on the Committee for more than three years. A member of the Committee may not vote on a nomination where a conflict of interest is likely to occur. If the conflict of interest results in an inoperable Committee, the President (or nominee) is empowered to co-opt from the ASL membership for the purposes of a decision on the nomination.

THE AWARD

The Award will be a certificate and a financial prize whose value will be determined by the Panel in consultation with the Treasurer. The Award will be presented at an ASL congress where the winner will be asked to present a short address with excerpts for publication in the Newsletter.

THE AUSTRALIAN SOCIETY FOR LIMNOLOGY MEDAL

REGULATIONS

The following guidelines have been developed with a view to maintaining a consistent procedure for the Society for awarding the Australian Society for Limnology Medal.

Regulations concerning the structure and functioning
of the ASL Medal Committee.

SELECTION CRITERIA

The ASL Medal will be awarded where an outstanding contribution to Australian limnology can be demonstrated by ANY OR ALL of the following:

- RESEARCH EXCELLENCE: the nominee has displayed excellence in any of the fields of limnological research, as demonstrated by key research papers and publications, or significant technological advances.

- EDUCATION AND/OR COMMUNICATION EXCELLENCE: the nominee has played a significant role in the advancement and dissemination of limnological knowledge, where this has enhanced the knowledge of Australian aquatic systems in a variety of forums.

- MANAGEMENT EXCELLENCE: the nominee has played a significant role in the protection of, conservation of, or management of Australia's limnological resources, and has shown administrative excellence in dealing with limnological issues.

NB. While the terms 'excellent' and 'significant' are relative and open to interpretation, the spirit of the award should be that the person has shown leadership and influenced others to achieve. Further, that influence should be sustained over a number of years.

The Medal is not intended for administrative excellence and service to ASL. These are more appropriately recognised by other awards, such as Life Membership of the Society.

MEMBERSHIP AND MEETING OF THE ASL MEDAL COMMITTEE

1. The Committee shall consist of three members: The President and two others selected by the Executive. In establishing the Committee, each new Executive should consider an appropriate balance in terms of gender, discipline and backgrounds of research/management, but must ultimately ensure that the Committee has experience in the judgement of limnological excellence. This may include previous recipients of the Medal (or Jolly Award). No one person should sit on the Committee for more than three years.
2. The Committee should discuss the award at a meeting or by telephone or by email.

THE AUSTRALIAN SOCIETY FOR LIMNOLOGY MEDAL (continued)

3. The Committee's Chairman will be the President (or nominee) and he/she will be responsible for organising the call for nominations, circulating nominations and arranging suitable meetings for the selection process. The Secretary of the Australian Society for Limnology will provide administrative assistance as required.
4. The Committee will assess nominations and, where it deems that an award should be made, make recommendation(s) to the Executive, through the President, for final endorsement. A two-third's majority is sufficient for the Committee to recommend that an award be made.
5. A member of the Executive, or a member of the ASL Medal Committee, may not vote on a nomination where a conflict of interest is likely to occur. If the conflict of interest results in an inoperable Committee, the President (or nominee) is empowered to co-opt from the ASL membership for the purposes of a decision on the nomination.

NOMINATIONS

1. Any person may be nominated for the ASL Medal.
2. Only financial members of the ASL may nominate a person for the ASL Medal. The nomination must be in writing and must be seconded by a financial member of the Society.
3. Nominations must include a supporting statement addressing the relevant selection criteria and, if deemed appropriate, a current copy of the nominee's CV.
4. Assessed nominations will lapse immediately. Unassessed nominations (when the Committee has not been able to make a decision) will be forwarded to an incoming Committee.

CITATION

The announcement of an award will be made at the annual congress and will appear in the Society's Newsletter accompanied by a citation describing the reasons for the award.

AWARD VALUE

The nature and value of the award will be determined by the Executive Committee of the Society. The award will normally constitute a Medal (suitably inscribed), and an economy airfare, registration and reasonable accommodation costs will be paid for the recipient to attend an Annual Congress (see below).

CONDITIONS OF THE AWARD

Unless extenuating circumstances are operating, the Medal can only be awarded (and presented) to the recommended recipient in person at the next Annual Congress of the Australian Society for Limnology. In accepting the award the recommended recipient will be required as a condition of the award to present the "Hilary Jolly Memorial Lecture" to be scheduled during the Annual Congress. The Award address should be accompanied by a paper intended for publication in a refereed international journal, and the paper should include a footnote or byline to indicate its significance.

Prepared by a sub-committee of the Australian Society for Limnology, January - June 1998.

SCUTTLEBUTT, RUMOUR AND A BIT OF PRATTLE

WSL CONSULTANTS – AQUATIC ECOLOGY

Patrick Maiden has been organising WSL's display at the Enviro 2002 conference and exhibition and World Water Congress being held 7-12 April. We are proud to be associated with the major water industry conference being hosted in Melbourne. **Danny Vertessy** and **Alistair Cameron** are presenting their findings from the Moonee Ponds creek artificial riffle study that produced some surprising taxa richness in highly impacted urban sites. **Dean Comrie**, WSL's Manager of Microbiology, will also presenting his findings of a taste and odour test of drinking water supplies.

David Bryant is researching an ecotoxicology study on the Latrobe river, a collaborative project between WSL Aquatic Ecology, the Key Centre for Applied and Nutritional Toxicology at RMIT and the Department of Biological Sciences, Monash University.

Greg Woodward, **Alistair Cameron** and **Patrick Maiden** performed a fish and macroinvertebrate survey in small creeks in South Gippsland. Interestingly, tupong were found in small temporary pools. Ongoing EPA compliance monitoring programs continue to be majority of the workload for the macroinvertebrate lab. We will be checking our nets and patching our waders as we prepare for the autumn sampling trips.

In January we farewelled one of our algal analysts. After completing his Dip.Ed. last year, **Hugh Richards** has taken a teaching position in Warrnambool. We all wish him well and are sure that his move will be a great success.

From

Patrick Maiden

CENTRE FOR CATCHMENT AND IN-STREAM RESEARCH, GRIFFITH UNIVERSITY, BRISBANE

Stuart Bunn recently presented his Professorial lecture at Griffith University: "Healthy River Ecosystems: Vision or Reality", the lecture was well received by a large audience, some who had travelled large distances to be there.

Up coming field work on the Cooper Creek will finalise the field component of **Stuart** and **Peter Davies** (UWA) Environment Flows Initiative project on the importance of flood flows to the productivity of dryland rivers and their floodplains. This field component will include an experiment using benthic metabolism chambers to assess temporal variability in production rates. Accompanying them on this trip will be **Stephen Hamilton**, a CCISR sabbatical visitor from the U.S. (Associate Professor at Michigan State University). **Steve** will assist on the productivity and food web studies as well as collect water samples for geochemical analysis. His principal research interests involve ecosystem ecology and biogeochemistry, and he has worked extensively on South American rivers and floodplains as well as Michigan streams and wetlands, on topics ranging from food webs to hydrology and geochemistry. **Suzanne Sippel** (from Michigan State University) who has worked with **Steve**, will be assisting with the remote sensing of inundation at Cooper Creek.

Tim Moulton (Associate Professor in Ecology, State University of Rio de Janeiro) is visiting CCISR for a year. Tim is an Australian (PhD at Macquarie University and later worked in the salt-lake Dunaliella project at Hutt Lagoon, WA), and has been in Brazil for 16 years. He works in stream ecology in the coastal rainforest, "Mata Atlântica", at the interface of community ecology (trophic interactions, community matrix) and ecosystem functioning (substratum dynamics, decomposition). He plans to compare streams of the coastal forest around Brisbane by repeating experiments that he has done in Rio de Janeiro – excluding components of the fauna with electricity to reveal the interactions of the community matrix. His experiments in Brazil have shown strong interactions of ephemeropteran nymphs and shrimps with the substrate, and trophic cascades in the interactions of fish, shrimps, macroinvertebrates and substrate (periphyton and sediments), and would welcome ideas and feedback.

Angela Arthington participated in a half-day Forum run by the Environmental Institute of Australia (EIA) on "Burnett (Paradise) Dam: Lessons about Planning and Impact Assessment for Sustainable Water Use in the Burnett River". Angela's paper described the Benchmarking Methodology used in Queensland to define the risk of "unacceptable environmental degradation" due to flow regulation. Now that new legislation has been passed (the 2002 Water Infrastructrue Development (BB) Amendment Bill), several environmental flow objectives established by benchmarking will not be met, increasing the risk of impacts on Queensland lungfish and other aquatic biota. The environmental impact statement (EIS) for the dam glossed over these risks.

Elvio Medeiros recently submitted the final version of his PhD project proposal "Variation in diet composition of fishes in dryland river refugia" for confirmation of candidature. **Elvio**, formerly from Federal University of Paraiba, Brazil has been at Griffith University for one year and is supervised by **Angela Arthington** and **Glenn Wilson** (MDFRC, Northern Lab). He is investigating diet variation in three native fish species (bony bream, spangled perch and olive perchlet) in several waterholes along the MacIntyre River (QLD). The project aims to examine how different types of natural and modified waterholes trophically support their fish communities, and the implications of limited and/or constrained food resources. **Elvio** recently spent a week sampling some of these waterholes, with the aim of investigating diel variation in the diet of the three species.

Stephen (Harry) Balcombe

NATIONAL PARKS AND WILDLIFE SERVICE

The Wetland, Waterbird and River Ecology unit, led by Dr **Richard Kingsford**, is currently busy doing a variety of different projects, with **Kate Brandis**, **Paula Crighton** and **Emma Gale** nearly completing work on the development of a digital statewide wetlands map. After numerous hours of editing, deleting and labelling of digital coverages, the end product will become the first statewide inventory of wetlands in Australia, based on Landsat satellite imagery, and will provide a good basis for management and assessment of wetlands and river management.

A lot of work is also focussing on the west of the state, especially within the Paroo - Warrego catchments, with **Kate Brandis** focusing on the development of hydrological models linking rainfall to river flows and wetland flooding. This project has been utilising satellite imagery to provide 20 years of flooding data for the region, and ties in nicely with work by **John Porter** on the investigation of the response of aquatic plants to river and wetland flooding. Also in the pipeline is the Paroo River Agreement, which **Richard** has been heavily involved with, and is an agreement for managing the entire river system for ecological outcomes. This river system is the last free flowing river system in the Murray Darling Catchment.

Richard and **John** have also been looking at the analysis of changes to the Menindee Lakes system and options for management. Meanwhile **Krissie Auld** has been working on the use of breeding of colonial waterbirds to determine adaptive management options for managing the wildlife allocation of water to the Ramsar listed Macquarie Marshes, and **Anne Ahern** has been working on the evergrowing 'Aerial Waterbird Survey of Eastern Australia Database'. These data have been collated from annual surveys, since 1983, and provides excellent trends of waterbird numbers as well as providing an indicator for wetland health.

Another ongoing process is the development of the WISE (Water Information System for the Environment) software, which are interactive CD's containing a great amount of educational information on selected catchments within Australia. Importantly, they for the first time provide a way for science to be closely linked to policy and management. Scientific publications for a whole catchment are 'tagged' to all the rivers, creeks and wetlands in the catchment.

Catchments that have been completed include the Macquarie, Hacking, Barwon-Darling, Gwydir, Namoi, Paroo and Warrego catchments with a launch of CD-Roms. Other catchments currently under development include the Lower Darling, Illawarra, Castlereagh and the Cooper Creek catchment. In addition the software is being migrated for web access. Various people have been working on these projects including **Susan Davis**, **Cherilyn Bray**, **Allan House**, **Mike Cufer**, **Victoria Adair** and **Sharon Ryall**. You can order completed catchments off the National Parks Website (www.npws.nsw.gov.au).

From

Emma Gale

AQUATIC ECOSYSTEM HEALTH, WATER QUALITY ASSESSMENT AND PROTECTION, DEPARTMENT OF NATURAL RESOURCES AND MINES (NR&M)

For starters I would like to draw everyone's attention to our unit name change that is a result of an amalgamation with several other units within the department. It's been a good Christmas break for the staff at Rocklea with time to wind down after the long weeks of fieldwork put in by everyone. During the Christmas period Rocklea hosted the third annual flume swim challenge time and we would like to congratulate **Jon Marshall** who won with the best time ahead of several hydrographers from around SE Qld. A mention for **Chris Marshall** who bedecked with sunglasses and terry towelling hat came in last several minutes behind time. Since Christmas our time is now being spent on the microscope, in front of the computer and getting field equipment organised before the next season of sampling coming up within a couple of months.

We have several new members to the team with **Michelle Winning** and **Annette Ritchie** joining us from Griffith University. Both were thrown in the deep end by going straight into fieldwork and are now getting a bit more time to settle into the noises and rumblings of construction sites and trucks so well known to Rocklea.

Diane Conrick, Glenn McGregor, Jaye Lobegeiger, Chris Thompson, Andrea Prior, Chris Marshall, Alisha Steward, Bernie Cockayne and **Peter Negus** from NR&M as well as **Mark Davidson** and **Ray Clarke** from EPA have finished the second and final round of fieldwork for the joint EPA and NR&M water quality project in the Mary River Catchment. Currently, **Bernie** and staff from EPA are analysing and writing up the results. Most of the same group had previously been flittering around the state undertaking fieldwork (helped by District Hydrographers in each region) for the second round of ambient monitoring. At the same time **Jon Marshall** was busy undertaking more fieldwork in Cooper Creek and the Warrego for the CRCFE Dryland Refugium project.

Since the Mary River fieldwork several other sampling trips have also been finished. **Bernie, Michelle, Jaye, Jon, Alisha, Annette, Glenn, Chris M.** and several people from other institutions have finished the second sampling trip for the Condamine-Balonne Project. They have sampled a wide range of indicators including macroinvertebrates, adult insects, fish, frogs, macrophytes, water quality, pies, pub beer, the consistency and bogging ability of black soils in SW Qld and the ability of farmers to move 4WD vehicles with quads. **Chris M., Chris T., Andrea** and **Peter** also finished the macroinvertebrate sampling for the implementation pilot of the Ecological Health and Monitoring Program (EHMP) for South-East Qld.

Apart from fieldwork other activities include: **Satish Choy** and **Diane** attending a workshop with the states hydrographers in Townsville to discuss the future directions of macroinvertebrate and water quality monitoring in Queensland and updating some macroinvertebrate field and id skills; several members of the team also spruced themselves up for some press photography and an article in the newspaper Queensland Country Life; and **Diane Conrick** and **Andrea Prior** have just returned cold and wet from the taxonomic workshop and pubs in Albury.

Over the next couple of months the unit is going to be even busier, with fieldwork for several current and new projects. The new projects include the full implementation of the EHMP that covers120 sites around SE Qld, a pilot study for the Fitzroy Resource Operations Plan looking at the ability of different indicators to assess the performance of flow management strategies, the Sustainable Rivers Audit being piloted in the Condamine-Balonne and Warrego catchments of the Qld and NSW Murray-Darling Basin and the CRCFE habitat simplification project.

Glenn and **Jaye** on the algae front are being scummed under with the many dots and dashes sampled from impoundments around the state on top of project samples as well. **Satish** is off to the Environmental Flows conference in Cape Town, South Africa to present a paper on the Burnett WAMP and **Chris M.** is off on another recreational sojourn, this time to Patagonia and gets back just in time to help out with fieldwork. That's about it till next time.

From

Pete Negus

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This is a song inspired by our recent field work in Queensland's Condamine-Balonne catchment. Katie and Charmaine must remain anonymous! Music and Lyrics by **Jon Marshall**, with thanks to **Pete Davies** for the bourbon.

Katie and Charmaine

We were working down the Condamine,
fishing, which was mighty fine.
I was with the outboard, 'cause the motor wouldn't go.

Katie and Charmaine, they were pulling in the seine,
Katie and Charmaine, pulling in the seine. *(backing vocals)*

The Culgoa country black-soil plains,
turn skanky with a drop of rain.
I was busy punting when the heavy shower fell.

Katie and Charmaine, they were fyking in the rain,
Katie and Charmaine, fyking in the rain. *(backing vocals)*

We got dirty down in Dirranbandi,
had a swiftie in Surat,
and the Hebel happy-hour really hit the spot.
But the greatest fun we had, if you want to know from me,
was the evening in St George we had sausages for tea,

A fisho's day can be quite long,
but goes faster if you sing a song.
So I was softly singing while hauling in the nets.

Katie and Charmaine, they were counting carp again,
Katie and Charmaine, counting carp again. *(backing vocals)*

Katie and Charmaine, pulling in the seine, *(backing vocals)*
Katie and Charmaine, fyking in the rain, *(backing vocals)*
Katie and Charmaine, counting carp again. *(backing vocals)*
Yeah, Katie and Charmaine, counting carp again. *(backing vocals)*
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River Murray Catchment Water Management Board
Strathalbyn, SA

Down here at the bottom of the drain, sorry... River Murray, things are really cranking along. I will soon be getting two new staff to assist with the following projects that are already on the go:

- Determination of the environmental flow requirements of the 15 ephemeral streams of the eastern Mount Lofty Ranges (the streams that flow into the River Murray or the Lower Lakes in SA).
- Water allocation planning for the Marne River/Saunders Creek catchments and the Angas Bremer Prescribed Wells Area (better known to most ASLers as the white wine growing region of Eden Valley and the red wine growing district of Langhorne Creek, respectively).
- Land and Water Management Planning for groundwater irrigation districts (that are rapidly changing from lucerne to grapes).
- A code of practice for efficient water use in irrigated viticulture - which in some areas includes compulsory revegetation – the Code of Practice for the Angas Bremer irrigators can be viewed at www.rivermurray.sa.gov.au. The Code has attracted a fair bit of industry attention and may be developed into a trial Environmental Management Systems/Audit and Certification project with Murray Darling Basin Commission, Wine and Brandy SA, CRC for Viticulture etc. to roll out across the basin or maybe the nation – stay tuned !!
- Coordination of whole of Government approach to providing Water for the Environment – this is a fun committee !!! – if anyone has experience with defining roles and responsibilities for Govt agencies, you will have a knowingly broad grin at this point.
- Determination of the monitoring requirements for the SA MBD – if anyone has a nifty risk assessment methodology for designing monitoring programs I would love to hear about it – currently considering the methods recently developed by SA EPA for the Western Mount Lofty Ranges – any advances.

My greatest coup so far is the eminent launch of the chocolate pygmy perch – this poor little fish is restricted to about five permanent pools in SA – so we are joining forces with the Native Fish Soc of SA and Haighs Chocolates to raise the profile of this little fishes plight and also raise some $$$ to fund habitat restoration projects – if it comes off I will bring a special batch to Margaret River!

Most concerning is that I have contracted a raft of ASLers to assist with these projects as consultants – one being our esteemed Tim Doeg – maybe I will be the subject of the next postcard or maybe I was the subject of the last – hmmm - either way Tim remember I read the ASL Newsletter and I sign your cheques!

From

Kerri Muller

ECOSYSTEM MANAGEMENT, UNIVERSITY OF NEW ENGLAND

Another year! New faces in the Limno Lab this year include **Kate Smolders** (Hons) and Imogen **Edmunds** (Masters) who are tackling the effects of heavy metal contamination on aquatic invertebrates and algae ('slime') in the Macleay River. Surveys over the last few years have revealed that antimony and, in places, arsenic concentrations far exceed guidelines in the river sediments and the problem extends for 300 km downstream to the coast. What is unknown is the effect of these high levels of heavy metals on aquatic biota in the river and the AMR has provided funds to Paul Ashley and Andrew Boulton to explore the severity of this issue. Preliminary experiments on potential release rates of antimony from contaminated sediments indicate high potential rates of release at even circumneutral pH but we have yet to determine how much of this is taken up by invertebrates or algae. Stay tuned.

The recent dry spell on the Tablelands spelt doom for **Brooke Turner's** project on stock impacts on streams (that all dried out) and she will now explore hyporheic processes in gravel bars of the Hunter River guided by **Peter 'Headtorch' Hancock**. Peter has successfully upgraded to a PhD and will complete his work with an experiment aimed at assessing the effect of Flow Rule 2 (protecting the first 12 h of floodwaters from pumping) on the hyporheic zone of the Hunter River. In contrast, the dry summer favoured Marcus Finn's project on low flows in the Forbes and Wilson Rivers. Our Spanish visiting student **Andres Mellado** (Uni of Murcia) sampled hyporheic invertebrates while the flow was reduced artificially but alas, returned to Spain before he could see a real-life drying.

Andrew Boulton has been on study leave in Perth, primarily identifying subsurface water mites under **Mark Harvey's** guidance. He is also involved in several projects on assorted North Coast rivers and will provide more details when he gets back from NABS and a month in France. **Wendy Miller's** urban stream program has extended to include agricultural and native reference sites while she also does some part-time work for DLWC in Armidale. On saltier fronts, **Paul Butcher's** mud crab research has met technology with sea-water resistant tracker devices that allows him to determine spawning migrations of mud crabs. Now his main worry is recovering the expensive devices before the mud crabs travel too far out to sea. Other estuary projects include **Sarah Mika's** work on the role of estuarine meiofauna in organic matter decomposition and **Rus Glover's** assessment of the effects of the changes in run-off due to a new coastal water supply. Those of you who met **Ryan Szuch** at the last ASL meeting will be glad to know he is safely back in the US working on wetlands in North Carolina while **Amanda Byrd** is counting copepods in Alaska where she says it is 'quite chilly'.

Until next time.

From

Andrew Boulton

SINCLAIR KNIGHT MERZ, MELBOURNE

Things have been busy since we last contributed to the newsletter.

Michael Shirley and **Sam Hannon** have since recovered from the ASL Congress organising and are back actually doing some work. The Onkaparinga Environmental Water Requirements Project is progressing with **Michael, Sam, Bruce Abernethy, Simon Treadwell** and **Michael Lake** spending considerable time in the catchment. An experiment has been established examining the habitat use of flatheaded gudgeons and whether habitat use is mediated by predatory redfin. The experiment involves a number of large exclosures in permanent pools in the river, being maintained redfin free.

Kylie Lewin is working on developing a project developing guidelines for environmental requirements of wetlands in the Murray Darling Basin, with input from **Paul Boon, Jane Roberts** and **Ben Gawne.** After a day in a light plane over the Loddon River **Tanya Wansbrough** is now back in the office making sense of the health of Bruce's Creek near Melbourne. **Melinda Holt**, who has recently joined us, is working on the ecological impacts of water trading within the Murray system, preparing a conceptual model of anticipated ecological implications. **Jacqui Brooks**, recently returned from the United States, has just joined the team and is working at Hattah Lakes and a joint project with Monash University. **Rod Hardwick** is immersed in stormwater management plans and will be working with **Simon** on a review of fish habitat requirements for the Murray Darling Basin Commission. We continue to get emails from **Lien Sim**, telling us the wonders of her travels around South America prior to commencing her PhD in W.A.

From

Michael Shirley

CENTRE FOR WATER RESEARCH, DEPARTMENT OF ENVIRONMENTAL ENGINEERING, UNIVERSITY OF WESTERN AUSTRALIA

Recent visitors to the Centre include **Brian Williams** from the Department of Civil Surveying and Environmental Engineering at the University of Newcastle. During his visit Brian spoke to developers and users of CAEDYM for his forthcoming book on hydrobiological modelling. He also set up a coupled biophysical model on the AC3 parallel computing system to do some comparisons between high resolution fully coupled models and box models. **Dr Tomoyuki Suzuki** visited CWR in November 2001 from the Centre for Public Works Research Institute in Japan. Dr Suzuki and his fellow staff are involved in project to compare the Tone River in Japan with the Swan River in Western Australia. Dr Suzuki previously undertook fieldwork on the Swan River in March 2001, when he participated in a field experiment on the Swan River with **A/Prof. Chari Pattiaratchi** and **Dr David Hamilton** and postgrads **Antwanet Kostoglidis** and **Joanne O'Callaghan**.

An Australian research team has won an $800,000 grant from the American Water Works Association Research Foundation to find out what happens to water-borne bugs in reservoirs. The grant will support a joint research project by the Cooperative Research Centre (CRC) for Water Quality and Treatment and the Centre for Water Research (CWR) to track and model what happens to pathogens such as *Cryptosporidium* and *Giardia* during floods in reservoirs in South Australia, New South Wales, and Victoria. The research team also includes the Australian Water Quality Centre, Melbourne Water, the Sydney Catchment Authority, SA Water, the University of New South Wales and Egis Consulting. The project will run from 2002-2004, with a budget of approximately $2 million in cash and other resources contributed by the seven research groups involved.

In November 2001, **Professor Jorg Imberger** visited **Bob Hecky** at the University of Waterloo to discuss a number of collaborative projects. From Canada, Jorg headed to Boston, Massachusetts where he delivered a seminar at MIT entitled "Make a difference: Design the process not the product". He also met with students and staff to discuss projects and the Centre's research program. The 3rd International Symposium on Environmental Hydraulics at Arizona State University was Jorg's next stop where he was a Keynote Speaker delivering his talk entitled "Characterizing the dynamical regimes of a lake". Jorg's last stop was Boise, Idaho where he met with **Sharon Parkinson** and **Peter Goodwin** from the University of Idaho and also delivered a talk entitled "Energy Flux Path in a Stratified Lake".

Dr Barbara Robson has been conducting a laboratory experiment to quantify the effect of salinity on *Microcystis aeruginosa* growth rates and also applying a bucket hydrology model developed by **Alisa Krasnostein** to Yangebup Lake and North Lake to determine water balances for these wetlands. The model is proving to be quite good at predicting water levels. Barbara has also recently had the following paper accepted for publication in *Continental Shelf Research*: Robson, BJ and Hearn, CJ. "Effects of wind and tides on the hydrodynamics of a shallow mediterranean estuary". **Barbara, David Hamilton** and **Jorg Imberger** recently received support from the Australian Research Council, to extend their modelling of the Swan River and implement higher trophic levels into the current Swan River ecosystem model.

CWR will be deploying Lake Diagnostic Systems (LDS) in Lake Burragorang and Prospect Reservoir over the next few weeks as part of a Sydney Catchment Authority project. **Jose Romero, Greg Attwater, Carol Lam** and **Rocio Fernandez** will all take part in the field trip through February and March. As Rocio's PhD will be on Lake Burragorang, this will be an exploratory field trip for her.

As well as the LDS deployment, the team, in conjunction with SEEWRT, will be monitoring both the lake and reservoir over three 3-week periods in February-March, May and September-October of 2002. The purpose of these field studies is to provide data to validate the limnological models ELCOM and CAEDYM. These data will primarily consist of snapshots of the distribution of heat, nutrients and particles throughout the lake. Additionally, 24-hr and 48-hr studies will be conducted at several locations to quantify changes that occur between night and day. These data will also be critical to assess the models' performance in simulating day-night variations.

Work is currently being undertaken by the Contract Research Group to produce an online version of the DYRESM-CAEDYM course. This work is being done in partnership with e-Varsity, a provider of online education systems. **Jason Antenucci** has met with representatives from e-Varsity to begin the design process for online delivery of the course. The course will be 'live' from June 2002.

Kathryn Linge and **Dr Carolyn Oldham** have recently published an article in *Chemistry in Australia*, which is the magazine of the Royal Australian Chemical Institute. "Contaminant remobilisation in wetland sediments" appeared in the December edition, which focused on the Environment and Green Chemistry.

Honours students, **Xanthe Mayer** and **Ciaran Harman**, have recently returned from a visit to the Lake Warden Catchment Recovery Centre, Esperance, WA. Xanthe's Honours project (supervised by **Dr Carolyn Oldham**) will investigate appropriate ecological indicators for the Lake Warden Wetland System, currently under threat from changing hydrological regimes, salinity and increased nutrients. Ciaran's Honours project (supervised by **Dr Carolyn Oldham** and **Prof. Murugesu Sivapalan**) will set up a simple water budget for Lake Warden to identify key controls on the wetland's hydrology.

Catherine Tan (PhD, supervised by **Dr Carolyn Oldham** and **A/Prof. Louis Evans** at Curtin University) has finished two years of monitoring two major urban drains in Perth, measuring Cu, Zn and pH, their dependence on rainfall events, and their seasonality. Catherine is now starting laboratory experiments to investigate the impact of low level Cu concentrations (as output by the drains) on phytoplankton photosynthetic capability, using simultaneous ^{14}C measurements and PAM fluorometry. Catherine hopes ultimately to use her results to extend the catchment model LASCAM and the ecological model CAEDYM.

Clelia Marti is a PhD student from Argentina. She is currently writing a paper describing the mass transport exchange between the littoral zone and lake interior of Lake Kinneret. The data was collected in an extensive field experiment carried out in June 1999. The 3-D numerical model ELCOM was used to assist in the interpretation of the field observations and to address the overall circulation and net mass transport in the benthic boundary layer and metalimnion, the results from the field experiment and her current research see http://www.cwr.uwa.edu.au/~marti.

Claire Spillman has returned from Italy where she was working on her PhD project titled "A Modelling Assessment of Clam and Mussel Dynamics in Barbamarco Lagoon, Italy". This is a joint project with CWR's Italian partner IPROS. Claire has set up a website at http://www.cwr.uwa.edu.au/~spillman and follow the link to the Barbamarco Lagoon Project.

For more news from CWR visit http://www.cwr.uwa.edu.au and click on "Splashback".

From

Richard Segal

THE MURRAY-DARLING FRESHWATER RESEARCH CENTRE

Albury:

Please note that all staff and students at the MDFRC have new email addresses to conform with the new CSIRO wide email format. The correct format is now Firstname.Lastname@csiro.au

Dr Ben Gawne has been appointed Director of the Murray-Darling Freshwater Research Centre, to replace **Dr Terry Hillman**, who retired in July last year. As Director, Ben will lead the Centre's three regional laboratories located in Albury, Mildura and Goondiwindi. Ben also takes a position on the Executive of the Cooperative Research Centre for Freshwater Ecology, of which Murray-Darling Freshwater Research Centre is an integral part.

In announcing Ben's appointment, **Professor Peter Cullen**, Chief Executive of the CRCFE, said that he was excited to have Ben take on this challenging and exciting leadership position and that he was confident that Ben would build on the excellent reputation already established by the Centre over the last 25 years.

Ben comes to the position with an extensive knowledge of the Basin's rivers and how they are managed. As Scientist-in-charge of the Centre's Lower Basin Laboratory, Ben has spent the last five years working with government agencies and the local community, providing the knowledge they require to manage their rivers. Ben's ground-breaking research on how the River Murray functions under different seasonal flow regimes and how this affects productivity, will be crucial in guiding environmental flows for the Murray and other rivers.

Congratulations Ben.

MDFRC tribute to Bill Williams:

All freshwater scientists will be aware of the major contribution made by Prof. Bill Williams to the study of the inland waters of Australia. He will be sorely missed, but his legacy continues through his many students and his written works.

But in addition, Bill was a caring and supportive colleague, and The Murray-Darling Freshwater Research Centre in Albury owes him a great debt of gratitude for the pivotal role that he played in the Centre's formative years as Chairman of the Research Advisory Committee from 1986 to 1989. The Centre staff are saddened by the loss of a strong supporter, a key colleague and a good friend.

A 'mini-symposium'organised by **Darren Baldwin** on Soil Phosphorus Chemistry was held on the 8 February. Papers were presented by Drs P. Haygarth, (IGER, Devon), David Nash (DNRE, Gippsland), Dr L. Condron, (Lincoln University, New Zealand) and Ben Turner (USDA, Idaho).

Preliminary discussions for the formation of an 'Aquatic Environment Centre' at Wonga Wetlands, Albury - a plan for school and community environmental education has proceeded. A Task Force and Business Plan has been established and the plan has been distributed to education departments and funding agencies for consideration). The Task Force has members from MDFRC (**Darren Baldwin, Rhonda Sinclair** and **Alison Mitchell**); Charles Sturt University; La Trobe University and Albury City Council.

The 14th Taxonomic Workshop, organised by **John Hawking**, was held on Tuesday 5th and Wednesday 6th February 2002. The venue was the Lake Hume Resort, near Albury. The groups covered in 2002 were: Hemiptera, Coleoptera, Syncarida, Ostracoda, Odonata, Ephemeroptera and Chironomidae. Six Identifications Guides were published for this workshop. Guest Speakers were: **Peter Cranston, Chris Watts, Patrick De Deckker, Sam Lake, Gunther Theischinger, Peter Serov** and **Phil Suter.**

The six Identification Guides realeased and available for purchase from the MDFRC, Albury were

I. Lansbury and P. S. Lake (2002) Tasmanian aquatic and semi-aquatic hemipterans. *MDFRC Identification Guide Series No. 40*, CRCFE, Albury.

P. J. Suter, D. Conrick, B. Cockayne and S. Choy (2002) Habitat profiles of Queensland mayflies, families Baetidae, Caenidae and Prosopistomatidae. *MDFRC Identification Guide Series No. 41*, CRCFE, Albury.

G. Theischinger (2002). Preliminary keys for the identification of larvae of the Australian Petaluridae, Archipetaliidae, Austropetaliidae, Telephlebiidae and Aeshnidae (Odonata). *MDFRC Identification Guide Series No. 42*, CRCFE, Albury.

C. H. S. Watts (2002) Checklists and guides to the identification, to genus, of adult and larval Australian water beetles of the families Dytiscidae, Noteridae, Hygrobiidae, Haliplidae, Gyrinidae, Hydraenidae and the superfamily Hydrophiloidea (Insecta: Coleoptera). *MDFRC Identification Guide Series No. 43*, CRCFE, Albury.

P. A. Serov (2002) A preliminary identification of Australian Syncarida (Crustacea). *MDFRC Identification Guide Series No. 44*, CRCFE, Albury.

P. De Deckker (2002) Australian non-marine Ostracoda (Crustacea): Identification guide. *MDFRC Identification Guide Series No. 45*, CRCFE, Albury.

The MDFRC hosted a fish training workshop on 20 and 22 February for scientists working on the MDBC's Sustainable Rivers Audit. The meetings were arranged by the MDBC to standardise the sampling protocol for monitoring to ensure that the results are statistically valid. Representatives were from Queensland, New South Wales, Victoria, SA and the ACT.

From

Rhonda Sinclair

Lower Basin Laboratory – Mildura:

Iain Ellis left the Lower Basin Laboratory on the 11th January after three and a half years of service. Iain has played an important role many of the Laboratories projects over the years, and his skill and knowledge will be greatly missed. All at the LBL would like to thank Iain for his hard work and dedication. We wish him every success in the future.

The Lower Basin Laboratory of the CRC for Freshwater Ecology is to remain in Mildura. The Victorian Minister for State and Regional Development announced a $2.5 million Regional Infrastructure Development Grant to La Trobe University for the construction of the new laboratories. In announcing the decision **Peter Cullen** thanked regional communities in NSW, Victoria and South Australia for their support. The involvement of Sunraysia Rural Water, Lower Murray Water and the community has been fundamental in the decision to remain in Mildura.

The CRC will be providing an additional scientific staff member to the Mildura team. The laboratory expects to increase its research on how salinity is impacting wetlands in the region and on aspects of environmental flows in the Murray.

(l to r): Dr Ben Gawne, Mr Ron Broadhead (Director, La Trobe University Mildura Campus), Mr Henry Tankard (Chairman of the Advisory Committee for the MDFRC Lower Basin Laboratory) and Mr Stefano de Pieri (Chairman, La Trobe University Mildura Regional Advisory Board) at the announcement of the new laboratories to be built.

Late News:

Congratulations to Michelle Bald and Matthew Wheal, the proud parents of Kieran James, born Monday 4 March, 8lb 3oz (3.8kg). All three are well.

From

Michelle Bald

COOPERATIVE RESEARCH CENTRE FOR FRESHWATER ECOLOGY

Richard Norris is now a member of the editorial board of Hydrobiologia for a period of 3 years, from January 1st 2002. He will act as an associate editor for papers on macroinvertebrates, predictive modelling of water quality and other related areas.

Two more CRCFE Summer Scholarships have been awarded to **Brooke Steenstra** and **Stephanie Meyer-Gleaves**. Stephanie is working with **Professor Stuart Bunn** on the Echidna Creek restoration project in SEQ. This project is partnered by QNR&M and 19 local councils involved in the Healthy Waterways and Catchments partnership. It is also run in collaboration with the CRC for Catchment Hydrology. Brooke is working with **Professor Jane Hughes** on a project titled "Dispersal in a Mayfly Species: a Genetic Analysis". Both students commenced on 7th January and will finish on 15 March.

A pre-publication version of the Theme 7 Australian Catchments, Rivers and Estuaries Assessment 2002 final report is now available on CD. Several CRCFE staff contributed to this report including **Richard Norris**, **Peter Liston**, **Nicholas Bauer**, **Nerida Davies**, **Fiona Dyer** and **Martin Thoms**, and **Ian Prosser** and **Bill Young** from CSIRO Land and Water. Printing is expected to begin in April/May. Contact Rochelle Lawson, National Land and Water Resources Audit Office for details, on (02) 6257 3109 or email: rochelle.lawson@nlwra.gov.au

The CRCFE is pleased to announce the appointment of **Dr Margaret Brock** of the Department of Land and Water Conservation as Program Leader for the CRCFE's Conservation Ecology Research Program. Margaret, a specialist in wetland ecology and salinity impacts, replaces **Associate Professor Arthur Georges**, who had decided not to reapply for the position. Margaret's appointment highlights the CRC's commitment to our industry partners and further enhances our efforts to bring agency perspectives to the CRCFE.

From

Lynne Sealie

NIWA AUSTRALIA

Ngaire Phillips has been busy since November on a number of macroinvertebrate surveys and associated data anlaysis and reporting for Brisbane City Council as part of their waterway health assessments. These projects are nearing completion.

Kit Rutherfurd spent some of December traipsing around in streams north of Brisbane with **Stuart Bunn** and **Pete Davies**. **Kit's** project is examining the effects of shading on stream temperature and is part of a larger study being run by **Stuart** looking at the key processes operating in riparian zones and the consequences of riparian degradation.

Ngaire recenily spent time at NIWA's Hamilton and Rotorua offices in New Zealand. She has been working with **Eddie Bowman** (NIWA Rotorua), **Lisa Golding** and **Burns Macaskill** (both NIWA Hamilton) on a multi-faceted project examining the impacts of stormwater inflows on Lake Rotorua. **Ngaire** and **Eddie** have spent too much time sieving sediment core samples as part of their examination of the benthic fauna. **Lisa** is using *in situ* bioaccumulation experiments and lab-based toxicity tests and has discovered the challenges of trying to make cages invisible to the public eye when the water is only 60cm deep. **Burns** is looking at water and sediment chemistry characteristics. Hopefully a nice story will emerge at the end!

From

Ngaire Phillips

ECOWISE ENVIRONMENTAL

The crew at ECOWISE are continuing to work hard on the new Sydney Catchment Authority macroinvertebrate monitoring project. **Kim Clark** and **Simon Josey** both led field teams in December last year and sampled some 48 sites in 26 sub-catchments over a 10 day period. Unfortunately, the devastating bushfires which swept across Sydney in December and January restricted the number of sites that could be reached due to catchment and road closures. Some eight sites as part of the MMP remain unsampled. Water Ecoscience (**Phil Mitchell** and **Rebecca Hayman**) in Melbourne are currently working flat out processing the samples to genus level. A project report will be completed by June 2002.

Simon Josey in Canberra has completed the 2001 annual report on Biological Monitoring of the Molongolo and Murrumbidgee Rivers for the ActewAGL Corporation. This project is in its 7th year and is designed to asssess the impacts of tertiary treated effluent from the Lower Molongolo Water Quality Control Centre on the Molongolo and Murrumbidgee Rivers.

Kim Clark and **Gavin Williams** in Queensland have just completed the sampling of Gowrie Creek in Toowoomba. This project is into the second year of a 3 year program and is designed to monitor the impact of effluent discharges from the Wetalla WWTP (BNR Technology) on water quality and aquatic macroinvertebrate indicators.

Garry Bennison, Kim Clark and **Leonie Marshall** (Rockhampton Office) have just completed a major project report to Sunwater, Bundaberg covering the 2001 Walla Weir environmental monitoring program. This project is designed to assess the operation of Walla Weir on macroinvertebrate, platypus and turtle populations in the Burnett River. A new 2002 environmental monitoring program is due to start in April.

Trevena Feldmanis from the Queensland algal laboratory recently identified a major bloom of *Microcystis flos-aquae* from a mining effluent pit in central Queensland. Cell counts were in excess of 50 million cells/ml and Queensland Health Scientific Services have requested a sample to start a culture to study the morphology, life stages, molecular biology and toxicology of the species.

John Driver continues to work on a *Lyngbya* project for the SEQ Regional WQ Management Strategy Group. John has installed instrumentation in Moreton Bay to measure tide direction, water temperature and other chemical parameters in an attempt to learn more about the development and movement of *Lyngbya* blooms in the Bay.

Kim and **Simon** both attended the recent MDFRC Taxonomic Workshop in Albury. Both learnt a lot and enjoyed meeting fellow taxonomists from around Australia.

From

Kim Clark (kclark@ecowise.com.au)

INFORMATION FOR MEMBERS

FlowThru: an online tool for surface water - groundwater interaction

Townley & Associates is pleased to announce the availability of a free online tool called FlowThru, which provides insights into the groundwater flow patterns that occur beneath surface water bodies. FlowThru is available at http://www.Townley.com.au/flowthru/, and will evolve as feedback is obtained from users and other interested parties.

FlowThru is not a model per se, but rather a post-processing tool that utilises pre-computed finite element solutions for simple 2D cross-sections beneath shallow surface water bodies. It was designed in the context of flowthrough lakes and wetlands in a coastal environment, but can be applied to a wide range of types of water bodies, including rivers, streams and drains. It recognises 17 distinct flowthrough regimes, 11 recharge regimes and 11 discharge regimes.

FlowThru displays classical 2D flow nets, with equipotentials and streamlines, but also shows "dividing streamlines" that separate regions in the aquifer that interact with a surface water body from those that do not. Every dividing streamline passes through a stagnation point, and it is the number and location of stagnation points that is fundamental to the classification system for so-called "flow regimes".

FlowThru will be useful for consultants, but will also allow students to learn about the complexity of groundwater flow patterns, and about the factors that control the spatial distribution of fluxes through the bed of surface water bodies, into and out of the hyporrheic zone. Apart from recharge and aquifer flows, these factors include the aspect ratio of a surface water body (its "length" relative to aquifer thickness), aquifer anisotropy and the resistance of bed sediments.

FlowThru was developed by researchers at CSIRO, and forms the basis of research continued by CSIRO Land and Water. Townley & Associates is pleased to support some of FlowThru's capabilities online, to encourage its use as a tool for learning about surface water - groundwater interaction.

Regards,

Lloyd Townley
Townley & Associates Pty Ltd
Postal address: PO Box 425, Claremont WA 6910, Australia
Phone: (08) 9389 6377 or Mobile: 0419 800 833
Email: LTownley@Townley.com.au

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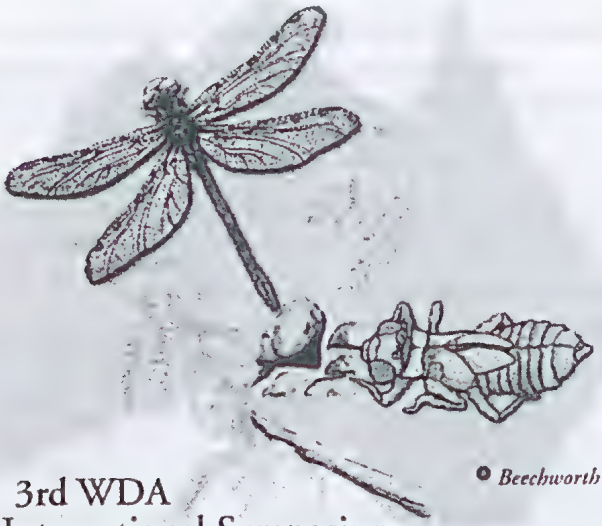

© Beechworth

3rd WDA International Symposium of Odonatology

Beechworth, Australia January 8-13 2003

Sponsored by the Murray Darling Freshwater Research Centre and the Cooperative Research Centre for Freshwater Ecology, at La Trobe University ~ Beechworth, Victoria.

Venue: La Trobe University (Beechworth). The campus accommodation ranges from International hotel rooms, conference hotel rooms, to shared cottages and backpack accommodation.

Scientific Program (8th to 13th January 2003): The Symposium is open to all kinds of scientific presentations concerning dragonflies (Odonata), including Morphology, Physiology, Ecology, Systematics, Biodiversity and Conservation.

Mid Symposium Field Trip (11th January 2003): The field trip will follow the Kiewa River from its source in the beautiful Snow Gum ridges of the Bogong High Plains to the River Murray. We will travel 100 km, over an altitudinal decline of 1400m, and encounter some 25 species of dragonflies which occupy discrete zones along the river.

Post Symposium Field Trip (14th to 19th January 2003): The field trip will combine dragonfly collecting with visits to cultural and heritage areas. We will visit the site of the world's most primitive odonate, *Hemiphlebia mirabilis*, which will be flying, and sites of other Gondwanan dragonflies, like *Austropetalia tonyana* and *Telephlebia brevicauda*. We will also visit National Parks.

Website: <<http://powell.colgate.edu/wda/dragonfly.htm>>
(check periodically for updated information).

John Hawking, MDFRC
Phone (02) 6058 2340
Email: John.Hawking@csiro.au

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Wetlands International Newsletter goes on-line

Dear colleagues,

Wetlands International is pleased to offer its newsletter "Wetlands" on our website www.wetlands.org.

The latest issue (No. 11, December 2001) contains interesting information on recent developments: outcomes of the Conference - "Wetlands in a Changing World " and 3rd Wetlands International Board of Members Meeting, held in Wageningen, the Netherlands, November 2001; updates on activities of specialist groups on waterbirds and wetlands; insights into local, national and international wetland conservation activities; the Global Peat Initiative; and lots more. This issue can be downloaded as PDF files at http://www.wetlands.org/pubs&/newsletter.htm

Regular subscribers will receive their hard copies in the post. Old issues are being uploaded as well, so you can catch up on this information as well.

Dr Taej Mundkur
Asia Regional Programme Director, Wetlands International, Malaysia
www.wetlands.org

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R&D Info

R&D Info is a free fortnightly information service for people with an interest in R&D, science, technology, innovation, entrepreneurialism and investment.

R&D Info is produced by Hallmark Editions as a supplementary service to the monthly newsletter, Australian R&D Review. It is free to receive, but there is a cost to advertise. Over 4,000 people have already joined.

Rosalind Stirling
Email: hallmark@halledit.com.au

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Prizes

- Prime Minister's Prize for Science
- Minister's Prize for Achievement in the Life Sciences
- Malcolm McIntosh Prize for Achievement in the Physical Sciences

Closing Date Friday 12th April, 2002 (5 pm)

Copies of nomination information can be obtained from:
Science Prizes Secretariat, GPO Box 9880, CANBERRA ACT 2601

Tel: (02) 6240 5066, Fax: (02) 6240 9160
Email: franco.perussich@dest.gov.au

Also from the Internet at www.dest.gov.au

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FASTS

FASTS Annual General Meeting

19 November 2001, 11.25am, CSIRO, Limestone Avenue, Canberra

Present

Peter Cullen (President), Chris Fell (President-elect), Jan Thomas (Vice- President), David Denham (Vice-President), Snow Barlow (Treasurer), John Rice (Secretary), Toss Gascoigne (Executive Director), Chris Easton, Peter French, Rob Norris, Mike Smith, Judy Mousley, John Humble, John O'Connor, John Byron, Len Ferrari, Ian Longson, Michael Borgas, Anne Campbell, Anna Robinson, Evan Leitch, Carolyn Behm, Alan Carey, Joanna Jones, Ruth Foxwell, Alison Edwards, Peter Hancock, Simon Kent, Gina Newton, Rod Boswell, Anthony Whalen, Marion Burgess, Arthur Brandwood, Glen Banks, Brian Schmidt, John Fitzgerald, Roger Alsop, Debra Rickwood, Don Scott-Kemmis, Robyn Easton.

Welcome

Peter Cullen welcomed participants to the meeting, especially guests Don Scott-Kemmis and Anne Campbell.

Policy Horizons – the next three years

A discussion on strategies under the new Government followed discussion by Peter Cullen, Don Scott-Kemmis (Director of Innovation Management & Policy at the National Graduate School of Management at ANU) and Anne Campbell (Manager of the CRC Association).

Anne described the approach of the CRC Association to its public face. She described the need to market and sell the organisation effectively and the importance of networking and canvassing influential advocates. The CRC Association publishes an annual document highlighting their single best achievements. Science must be shown as relevant to the community, and the bureaucracy need to be educated on the importance of basic research.

PhD students were an important research commodity, profitable outputs from Universities. The CRC focuses on flexibility and excellence, selling the knowledge market.

Don argued that science needed influential advocates (such as the Prime Minister), relevance and industry support to build a receptive constituency. He suggested building a broad coalition of supporters and emphasised the importance of benefit-cost studies (especially those conducted by the Productivity Commission or Treasury). Simple indicators, comparisons with other countries and links to give a regular report on the state of the Innovation system may assist.

Address by Chris Fell – The Future of FASTS

Chris discussed the attitude of the present government and identified the losers from "Backing Australia's Ability" – the university sector, industry through the lack of tax incentives for R&D, and problems facing science students. Where should FASTS position itself?

He discussed the need for links to the private sector, the possibility of interacting with State governments, what FASTS' Members Societies required, the need for better communication pathways, the challenges facing the FASTS' office and present Board structure. FASTS must make Science matter!

This led to a broad-ranging discussion on the future for FASTS, in which each member of Council was invited to identify what they saw as an issue of importance.

Issues that were identified ranged from the need to build alliances with influential people, groups and State governments, to using students to promote science and to develop effective incentives for R&D investment. Delegates called for FASTS to develop a communication plan, and to increase the industry representation in its ranks.

The Top Ten Issues

Ken Baldwin introduced a draft of the Ten Top issues for 2002, and invited comment. He emphasised the need to put science back on the agenda, to work with the returned government and show Australia can still be internationally competitive.

Discussion focused on HECS issues, building the basic sciences; strategies to recruit, retrain and reward science and mathematics teachers; ways to build industry links, and to recognise talented scientists. It brought up a coordination role of FASTS, the need to monitor trends and identify gaps in disciplines, and a potential relationship with social sciences based on the World Science declaration at Budapest.

The final version of the Ten Top issues will be drawn up by the Policy Committee, with input from the Board and Executive; and then released in the new year.

Policy Document and Committee

The role of the Policy Committee was discussed in relation to the preparation of the Policy Document. The committee consists of Ken Baldwin (Chair), Jan Thomas, David Denham, Peter French and Chris Easton, all of whom are on the Executive. The inclusion of new members is to be discussed at the Board meeting.

Discussion ranged on how the style of the document fits its target audience, and how the language may not be appropriate for groups such as industry. It was suggested that campaigns could be run on individual themes from the document, and that the main document could be reprinted in individual sections. There was also discussion on how it serves as a resource for submissions from the Board and Executive.

Input will be sought from Member Societies for a launch towards the end of 2002, with a timetable to be published early next year.

Workshops for Societies

The proposal to run a series of workshops to share ideas and lift the ability of Member Societies to cope with challenging times was discussed. The current proposal is to hold workshops in major centres round Australia, with sessions on issues such as:

1. Delivering benefits to members
2. Finding, motivating and coordinating a volunteer workforce
3. Finding and working with professional help - the role of the executive officer
4. Communicating with members, including finding what members want
5. Influencing policy and raising the profile (including use of media)
6. Effective use of databases and accounting packages

There was an overall positive view to explore this concept further, with a diversity of needs becoming apparent in discussion. Societies divided roughly into two parts: those with an executive officer running their affairs, and those with no professional help.

Council requested the Executive to proceed to develop the concept.

Other Issues

a. FASTS' Web site

Council felt that although the FASTS' web site was useful, it needed updating and revamping to improve its effectiveness. The Executive said that it had allocated funds in the current budget, and appointed a web committee (Chris Fell and Ken Baldwin) to make specific recommendations.

The Executive was encouraged to proceed.

b. Calendar for the year

The major events are expected to be a Forum at the National Press Club in early mid-year, and "Science meets Parliament" Day in November. A new version of the Policy Document will be launched late in the year.

Council was advised that CSIRO Staff and other groups will be collaborating on a Women in Science conference in 2002. This will be supported by FASTS, and advertised through normal FASTS' channels.

c. Societies were encouraged to submit Occasional Papers, along the lines of the one written by Jan Thomas on behalf of the Australian Mathematical Society, or the near-final one to be published on behalf of the Parasitological Socierty. FASTS offers considerable assistance with editing, printing, launching and publicising; and these papers are a useful way to collate ideas and raise issues in the public arena.

d. Approach to SmP Day

There was a general discussion on SmP Day runs. This is a showpiece event, unique to Australia in terms of its reach into federal Parliament. The good features need to be maintained, but it must not be allowed to go stale and lose its attractiveness to either scientists or Parliamentarians. The point was made that this is such a valuable networking opportunity that even if no MPs agreed to an appointment, it would still be a worthwhile occasion.

Suggestions that arose in discussion included the virtue of including younger scientists as a focus; the possibility of including non-members such as private industry, teachers or engineers; the need to vary the Briefing Day agenda; the possibility of incorporating a dinner for scientists, industry and Parliamentarians.

Any other business

a. The Australian Marine Sciences Association raised the a number of marine issues, including the slow progress on the Marine S&T plan; a declining capacity in specialist areas i.e. taxonomy & aquatic diseases; and oceans policy.

It was suggested that these may make a suitable subject for an Occasional Paper.

b. The Minchin/Evans pre-election debate in Adelaide was discussed, with the possibility of future debates being encouraged and organised by FASTS.

The meeting closed at 4.40pm.

REVIEW OF EXTERNAL EARNINGS TARGETS POLICY SUBMISSION FROM FASTS, RELEASED 14 DECEMBER 2001

Terms of Reference

The Chief Scientist will undertake a review of the external earnings targets policy to consider whether there are alternatives which would better encourage science agency-research user linkages and the commercialisation of science agency research.

The Chief Scientist will:

1. Assess the continuing effectiveness and appropriateness of the external earnings target policy as currently applied to CSIRO, ANSTO and AIMS. In making such an assessment, the Chief Scientist will consider the impact of the external earnings targets on:

a. the nature and directions of research efforts;

b. the planning and conduct of research;

c. the pricing of research services;

d. research commercialisation options and strategies (including IP management and ownership); and

e. the resources available to the research agencies (other than the level of the agencies' appropriations.

2. Develop options for performance measures which could be applied to the science agencies, in the context of the respective agencies' strategic positioning and the corresponding broad framework of overall performance assessment;

3. Consult with all relevant science agencies; scientific, academic, and business stakeholders; and state and federal government agencies;

4. Report to the Minister for Industry, Science and Resources and Minister for Finance and Administration by 31 January 2002. In this task, the Chief Scientist will be supported by a Secretariat comprising of officials from the Department of Industry, Science and Resources and the Department of Finance and Administration.

The submission from FASTS

The Federation of Australian Scientific and Technological Societies represents the interests of 60,000 working scientists across Australia. The 57 Societies which make up FASTS have members in all disciplines, working in both industry and research organisations such as universities. Many individual members of FASTS work in CSIRO, AIMS and ANSTO, or in industries which interact with these three research agencies.

The external earnings target (EET) was initially introduced in 1988 to strengthen the links between research organisations and the users of research (and the relevance of research to needs). The EET for CSIRO was set at 30% and the level for AIMS and ANSTO at 20%. There has been no statement that the aim has changed or been modified.

In general, the aims of the EET have been met. The research agencies have been able to attract the external funding required of them, and it has changed the culture of the research agencies. The secondary aim has also been achieved: the simple fiscal objective of reducing the budget allocation to research agencies as a proportion of their total resources.

FASTS will argue in this submission that the EET should be dropped as a formal requirement on research agencies. It has served its primary aim, and it is a relatively crude device which does not measure the quality and relevance of output of a research agency. The EET emphasises the short-term rather than the long-term, and tends to distort the research effort and to encourage excessive competition instead of collaboration. There is already a powerful and enduring incentive for the research agencies to maintain their interactions with industry, and that is the financial and staffing penalties which would follow a reduction in external earnings.

The EET may still have a useful purpose (if retained at a reduced rate, and applied as a target rather than a formal requirement) as one of a suite of measures to judge the interaction between the research agencies and industry.

The difficulties which surface in this review of the EET are largely the result of a chronic under-funding of the science sector by government and industry in Australia.

We will suggest alternative and more helpful measures to encourage and evaluate the interactions between the research agencies and industry.

"The impact of the external earnings targets on the nature and directions of research efforts".

As currently applied the EET can distort the research effort. A thirty per cent requirement on a CSIRO division becomes a 55% requirement on a research team (because researchers have to cover the cost of administration); and this can fall disproportionately on the shoulders of those who can deliver particular services. For instance, in some areas research funders are increasingly interested in modelling as opposed to field work; and only a few members of a research team might have the necessary skills to provide these services.

The EET can work against the public good in that it distorts a main function of research agencies, to identify and pursue research programs that are strategically important for the country. It cuts into the capacity of scientists to undertake work (particularly "public good" work) they have identified as important - unless they can find a body willing to fund this work. It accentuates short-term work at the expense of the long-term. Areas of expertise have been lost because there is no commercial market for them (e.g. taxonomy); and one senior CSIRO officer reported that his division had lost all its basic biological expertise in birds, bats and reptiles because of the commercial forces driving research work.

"The impact of the external earnings targets on the planning and conduct of research".

It has been claimed that key areas of research chosen by the research agencies more closely reflect the likelihood of meeting external earnings targets than the national good.

Some research agencies (notably CSIRO) have a reputation in some quarters for being "difficult to deal with" and "uncooperative" because of the pressures to keep external earnings at a high level. This has strained relations with potential partners, particularly from the CRC sector where CSIRO's costing of its services and demand for convoluted administrative arrangements have caused friction.

The EET has pushed the research agencies into competitive positions where there might better have been cooperation and collaboration. In some research projects it would have been far more productive to pool the expertise and make a joint approach, rather than enter into cut-throat competition for the limited funding available from the same industry or end-user sources. This excessive competition has blurred the differences between the universities and research agencies, forcing them away from the different roles and positions they occupied to the extent that questions are being posed about the role and community expectations of these groups.

"The impact of the external earnings targets on the pricing of research services".

Industry has been reluctant to pay the full cost-recovery figure for work done by the research agencies, and the EET measures arguably create an unplanned and unjust subsidy for those who can afford to commission R&D. Recognising the requirement for the agencies to raise a certain proportion of their revenue from external sources, the research funders (e.g. R&D Corporations) use this position to leverage concessions out of the agencies. Scientists reported agreements that are costed at 1.1 times salary, and which may include hidden extras such as the entrainment of labour.

There is a view that, until Australian industry learns, or gets forced, to invest more into research, the nation will continue to subsidise purely industry research that benefits particular industries. Industry is reported as being very good at levering money out of CSIRO, and getting public funding to do its development research. At high levels, the pressure should be on industry to do their own development research (or pay for it fully) and allow CSIRO to do the generic type of research, and public good research that is slipping behind.

One CSIRO division discovered when it reviewed its costing processes, that work brought in under the EET measures was costing it $1.17 for every $1 industry put in. This division claimed it was one of the more efficient ones, and the cost to benefit ratio was higher in other groups.

The EET processes often do not take into account the hidden costs associated with bidding for funds, and in maintaining the relationship with funding bodies. It is a common statement of scientists that they spend 70% of their time getting 30% of their funding.

RECOMMENDATIONS

Recommendation 1. Abandon the EET as a formal requirement for research agencies.

The measure has achieved its prime purpose, of encouraging the research agencies into closer collaboration with industry. A new culture has been created and new relationships formed. The research agencies will not abandon these relationships, as a significant part of their funding and staffing depend on them. But as the EET is currently applied, it is forcing distortions in the system, to the long-term detriment of research in the national interest.

Recommendation 2. Use the EET as one of a suite of measures to assess the interaction of research agencies with industry.

The EET can be a useful indicator of research-industry interaction, in conjunction with other measures. In this light it should be considered a target rather than a measure, and applied more flexibly. Scientists are committed to working with industry, but they consider the level of the EET is too high. A figure of about half the prevailing rates would be more workable.

Recommendation 3. Replace the EET with qualitative measures to assess the interaction between industry and research agencies.

The EET is a simple but not a good indicator of how well a research agency is working with industry. A better measure would be through customer assessment, measured directly through focus groups or by questionnaire. It is important to move from quantitative measures to qualitative, and to take qualitative measures more seriously. While these measures do not have the attractively definite quality of the EET, they do provide a better measure of how the research agency is working with industry.

Recommendation 4. Establish a common standard for benefit-cost analyses to assess the value of science and research to Australia.

Australia needs a way to demonstrate the benefits of the national investment in science and research. This could be satisfied by a robust benefit/cost analysis, involving credible estimates of commercial or economic outcomes. Such analyses must be specific to the particular area of activity, and require significant resources.

MEDIA RELEASE 14 JANUARY 2002

Release of 'Ten Top Issues' for 2002

Australia's peak body for working scientists and technologists today (Monday) said it was time for the Government to announce the second stage of its plans for science and technology.

Professor Chris Fell, President of the Federation of Australian Scientific and Technological Societies (FASTS), said the Government itself recognises there is more to be done.

"We welcomed the Prime Minister's statement on innovation last January as promising start," he said. "Subsequently Mr Howard said the job wasn't complete, and we agree with him." "Now it's time to announce the second step."

Professor Fell was launching FASTS' annual 'Ten Top Issues' list. The list has suggestions to Government on ways it can increase the impact and profile of science in Australia.

He said that some would cost very little to implement, such as removing the unfair HECS burden on science and mathematics teachers. But he warned more overall funding would be needed.

"We cannot escape the hard cold fact that Australia's investment in science and research is well below that of comparable countries," he said.

"Unless we take positive action, our expertise, our capacity for top science and our best people are going to fade away. The process is slow at first, but leads inevitably to a low-income, low-skill economy with a high proportion of the population on social security.

"Australia will not join the league of countries like the USA, UK, Finland, Ireland, and Singapore that have successfully adapted their industries to the new economy, thereby preserving jobs."

Professor Fell said Australia should be aiming to get more young PhD graduates working in industry, to encourage greater invention and to reduce dependence on imported technology.

"Singapore attracts new companies to locate there by offering to pay the salaries and expenses of any young PhD graduates they employ for the first two years. We suggest Australia should be doing the same, but for Australian companies as well as international ones," he said.

Other suggestions include:
... Bring forward new investment in science and research announced by the Government's last year, so scientists can get to work creating new industries and new jobs.

... Have a regular call for "big science" projects. Many excellent ideas missed out on funding last year, and the Major National Research Facilities program should be an annual event.

... Science and maths teachers are in short supply in Australia, but they still are forced to pay higher HECS fees than teachers in other subjects. This should be reduced.

TEN TOP ISSUES FOR 2002

1. BRING ON "BACKING AUSTRALIA'S ABILITY"
Speed up the new funding promised to science, so scientists can get to work creating new industries and new jobs.

2. INVEST MORE GOVERNMENT FUNDS IN THE UNIVERSITY SECTOR
Australia's national investment in education is slipping behind other countries. We are in danger of losing brainpower and ending up a nation of low-skill, low-pay industries.

3. ENCOURAGE NEW INDUSTRIES TO RELOCATE TO AUSTRALIA
Meet half the cost of employing new PhD graduates, to encourage companies operating in Australia to compete internationally by employing our best and brightest talent.

4. HECS-FREE EMPLOYMENT FOR SCIENCE AND MATHEMATICS TEACHERS
Science and maths teachers are in short supply in Australia, but they still are forced to pay higher HECS fees than teachers in other subjects.

5. BIG SCIENCE
Call for new proposals for Major National Research Facilities each year, to allow "Big Science" proposals to be funded.

6. DON'T DISCOURAGE SCIENCE AND TECHNOLOGY STUDENTS!
Students studying for careers in science, mathematics and technology fields should not have to pay higher course fees than students studying economics, arts, humanities and social sciences.

7. ENCOURAGE COMPANIES TO INVEST IN NEW PRODUCTS
New and better products come from research and development. Companies should be offered financial incentives to invest in more R&D, through a sliding scale of Government support.

8. RESTORE FUNDING FOR CSIRO
CSIRO has lost staff and funding over the last 10 years. Renewed investment will help it carry out important new research for the national good.

9. SCIENCE IN THE NATIONAL INTEREST
Help focus the national Parliament on innovation by establishing a Standing Committee on Science and Innovation, and by providing better high level scientific advice to Parliament.

10. ENCOURAGE SCIENTISTS TO THINK COMMERCIAL
Allow scientists working in publicly funded research organisations like CSIRO to have a stake in their own research, through rewards for successful commercial ventures.

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

FASTS Circular – February 2002

IN SUMMARY

1. RESEARCH PRIORITY SETTING
2. FASTS' OCCASIONAL PAPER 4
3. "SCIENCE MEETS PARLIAMENT" DAY 2002
4. WORKING WITH DEPARTMENTS
5. THE PRIME MINISTER'S SCIENCE, ENGINEERING AND INNOVATION COUNCIL
6. THE FASTS' POLICY DOCUMENT
7. MEETINGS WITH MINISTERS AND SHADOW MINISTERS

1. RESEARCH PRIORITY SETTING

I have written to the Minister to express our concerns about the recently announced research priority areas, and met two weeks ago with Science Minister Peter McGauran to discuss ways that FASTS and the working science community could contribute to the development of national priority areas.

While FASTS has consistently supported the identification of national goals, as well as some degree of prioritisation of the research effort towards meeting those goals, we do have reservations about the system as it was announced. Our concerns fall into five areas:

a. process - lack of consultation
b. target - too much at the basic research end
c. quantum - too large a slice
d. plurality - preserving a pluralistic system
e. coordination - a whole-of-government approach needed to priorities.

In our view, Bill Clinton's science adviser Dr Neal Lane had it right when he addressed the National Press Club in October 2000. When asked how Australia should prioritise its research, he responded:

"How do you know what to invest in? I don't have a complicated solution to that. I said earlier that especially in basic research, we have found that we get the most out if it by investing in the very best people and the very best ideas...

"And there will be some very high priority national challenges that a nation wants to get at in a given period of time - national security or perhaps for all of us in the area of the environment...Then we think it's important for the Federal Government to try to bring together the scientific communities and all the different agencies that are involved...

"And it's a little bit more directed research, and that's fine, so we spend some of our increases each year on that kind of multi-disciplinary research that's focussed on larger national needs; but then, within that, you still can't do better than betting on the very best people with the very best ideas."

The essential difference between the Government's initial approach and that recommended by Dr Lane is the process of consultation. The Government is now moving towards a more consultative process, and FASTS will assist in that process of consultation.

2. FASTS' OCCASIONAL PAPER 4

We have just launched our fourth paper in the FASTS' "Occasional Paper" series. It was prepared by the Australian Society of Parasitology and is named "An Investment in Human and Animal Health: Parasitology in Australia".

I thought that you might be interested in seeing the paper and hearing how FASTS and the ASP worked together to launch it into the public arena. It does provide a model for how your Society could work towards a paper on similar lines, with the aim of bringing an issue to the attention of policy-makers and the general public.

The paper was prepared by members of the ASP. The text was approved by the Executive of FASTS and formatted to meet the style of our publications. (We have since prepared guidelines on Occasional Papers, and they are available from our office.) The FASTS' office then worked with the Society to organise the launch at Parliament House in Canberra. This involved room bookings, catering, security arrangements, drafting and distribution of media releases, and correspondence with the Minister. FASTS also arranged for the printing of the paper and putting it on our website in pdf format.

The costs were shared by the ASP and FASTS. FASTS contributed our time and expertise in making arrangements for the launch, and met some printing costs.

The launch received significant media coverage: the 7.30 Report, ABC 7 pm News; articles in the SMH and the Canberra Times; interviews on commercial and ABC radio. It raised a general issue as well as the specific concerns of parasitologists: that the national investment in science and technology is inadequate.

The Parasitology paper had its genesis nearly three years ago, following a priority-setting exercise at a national ASP conference led by Toss Gascoigne of our office. It was a significant effort by ASP and involved many of its members, but the result is a clear statement of policy and directions for parasitology which will fuel the Society and the discipline for some time.

If your Society is interested in the possibility of publishing a paper in the FASTS' series, please contact our office. A copy of the Paper will be sent to you; and in the meantime it is available as a pdf file on the FASTS' web site: www.fasts.org.

3. "SCIENCE MEETS PARLIAMENT" DAY 2002

I have written to Minister Nelson recommending that the event be held on Tuesday-Wednesday November 12-13 this year, and expect these dates to be confirmed shortly.

This unique event offers a special opportunity for working scientists from across Australia to make the case for science and technology directly to their representatives in Parliament. While the funding initiatives announced in "Backing Australia's Ability" in January last year were a welcome step, Australia is still out of step with other comparable countries in terms of our national investment in S&T.

We are dealing this year with a new Ministerial team, new Members of Parliament, and new Shadow Ministers, and it is important to continue to build links with Parliamentarians.

SmP Day also offers a valuable opportunity to convene other meetings, and some Societies may be able to schedule regular Council of Executive meetings to coincide with the event in Canberra.

4. WORKING WITH DEPARTMENTS

I led a team of FASTS' Executive members in meeting with officers from the newly-formed Department of Education, Science and Training earlier this month. It was a productive discussion on our respective priorities over the next year, and an exploration of matters where we can contribute to each other's efforts.

We discussed matters such as the Prime Minister's Science Council; the Forum we propose holding at the National Press Club in mid-year; the division of responsibilities between the two Ministers with responsibility for science; triennium funding for the government-funded science agencies; the possibility of having another funding round for Major National Research Facilities; and the selection round for new CRCs in May.

5. THE PRIME MINISTER'S SCIENCE, ENGINEERING AND INNOVATION COUNCIL

The Standing Committee (the scientist members of PMSEIC) meets on March 8. These meetings set the agenda for the full Council meetings which the Prime Minister and most of his Cabinet colleagues attend. The agenda has yet to be approved by the Prime Minister, but the draft focuses on natural resource issues.

The full Committee chaired by the Prime Minister meets on May 17. This is becoming an increasingly important committee in terms of setting national agendas, and I will report on the non-confidential discussions in due course.

6. THE FASTS' POLICY DOCUMENT

We will be releasing a revised policy document later this year. The Policy Committee chaired by Ken Baldwin will be handling the drafting process, and all Member Societies will be invited to comment on draft documents. The new document will have more graphs and diagrams, and reflect changes in the science policy scene with the announcement of "Backing Australia's Ability" and the injection of the ALP's Knowledge Nation proposals.

7. MEETINGS WITH MINISTERS AND SHADOW MINISTERS

I have had three meetings with Science Minister Peter McGauran; and will meet Education, Science and Training Minister Brendan Nelson this week to complement our phone discussions and correspondence.

We have met with Shadow Science and Research Minister Senator Kim Carr; and have an appointment with Senator Natasha Stott Despoja as Science spokesperson for the Democrats early in March.

These formal meetings are complemented by more frequent informal contacts between our offices, and by phone conversations. Both Ministers and Shadow Ministers are in no doubt about the FASTS' positions on science and technology issues!

Chris Fell, President FASTS
25 February 2002

FASTS EVENTS 2002

I can now confirm two dates for this year:

1. "SCIENCE MEETS PARLIAMENT" DAY

This event will be held on Tuesday 12 to Wednesday 13 November -. At this stage the morning of Tuesday 12 November will be free if you wished to organise supplementary meetings.

We are hoping to incorporate a new aspect, a Science-Industry dinner on the evening of Wednesday 13, and will announce a full program as soon as possible.

2. FASTS' FORUM AT THE NATIONAL PRESS CLUB

The Forum will be held at the NPC on Wednesday May 8. Minister Brendan Nelson has agreed to be the keynote speaker.

The general topic will be science education across the spectrum. The event will run from about 9am to 2.30pm, with a number of other speakers complementing the Minister's speech.

Bookings and more details about these events will be released shortly.

Regards.

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

BOOK REVIEW

Subterranean Biology in Australia 2000, Records of the Australian Museum, Supplement No. 64.

Edited by WF Humphreys and MS Harvey. Published 2001 by (and available from) the Western Australian Museum. 243pp, Price AUD$33.00. ISBN 0 7307 7601 8.

"Subterranean Biology in Australia 2000" is a collection of scientific papers on various aspects of the ecology, biology, distribution and systematics of subterranean invertebrate fauna in Australia. The papers report on the fauna of cave, groundwater and hyporheic environments, and mostly stem from those presented at the *Dampier 300 – Biodiversity in Australia 1699-1999 and Beyond* conference held in Perth in December 1999. Added to those were a number of papers on systematics of subterranean fauna. While not strictly aquatic in focus, the volume contains a number of papers likely to be of interest to ASL members.

The first of the scientific papers, authored by Andrew Boulton, is a summary of the current knowledge (and gaps therein) of taxonomy, biodiversity and processes within the hyporheic zone of Australian streams and rivers. The papers that follow have a more groundwater and karst focus. The second of the scientific papers (Humphreys and Adams) reports on allozyme analysis of populations of a cave adapted millipede from Cape Range, WA. Genetically distinct groups of millipedes were related to the geomorphological structure of Cape Range, indicating that the deep gorges that dissect the limestone act as a barrier to sub-populations mixing. The identification of these genetic provinces suggests that each area is likely to contain a suite of species restricted to that area, and as such, conservation and management should focus on maintaining the integrity of each sub-population.

Two papers by Thurgate et al. discuss the diversity of terrestrial and aquatic cave faunas in Eastern Australia. The first paper challenges the long held belief that NSW was depauperate in terms of cave-adapted fauna, and identifies several sites as biodiversity hotspots. The second paper reviews the diversity and distribution of aquatic cave fauna across the eastern coast of Australia (including Tasmania). Particularly dominant and widespread groups are syncarids, amphipods and hydrobiid gastropods. The paper also presents a focus on the diverse stygofauna of Wombeyan Caves, NSW, which is home to a large number of neoniphargid amphipod species. Bill Humphreys reports on the diversity of aquatic fauna in groundwater calcrete aquifers across the Australian arid zone. The paper explores the general hypothesis that the distribution of fauna could be predicted from the paleodrainage. Each calcrete sampled contained a unique faunal assemblage, as predicted by the hypothesis. However, the hypothesis proved too simple as it did not consider barriers to dispersal.

Two papers discuss the conservation and management of karst areas and subterranean fauna. The first of these by Hamilton-Smith identifies threats to karst biodiversity in Australia and proposes some mechanisms through which the conservation of karst fauna may be achieved. The second by Eberhard discusses considerations for monitoring cave fauna, in which the author draws on experience in monitoring impacts on stream fauna in the Exit Cave system in Ida Bay, Tasmania.

The remaining papers are technical reports on systematics, some of which may be of particular interest to ASL members. Wilson and Humphreys describe a new species of polycheate from anchialine caves in Cape Range, WA. De Laurentiis et al. describe a number of species of cyclopodid copepods from groundwaters in WA. Taito and Humphreys describe Oniscid isopods from groundwater calcretes in WA and provide keys to some species. Other systematic papers describe new species of cave inhabiting arachnids from terrestrial environments. At the end of the publication is a series of abstracts from other relevant papers presented at the *Dampier 300* conference.

Perhaps the greatest criticism of the book is that a number of the papers in this volume discuss biodiversity, yet it is never adequately defined. Instead, most authors seem to equate biodiversity with taxonomic richness. Despite this, the book provides a scientific basis for the management and conservation of cave and groundwater fauna, and is a good compendium of Australian research on the topic. The papers in this volume provide a useful resource and make good reading.

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NEW BOOKS

Monitoring Ecological Impacts: Concepts and Practice in Flowing Waters

by Barbara J. Downes, Leon A. Barmuta, Peter G. Fairweather, Daniel P. Faith, Michael J. Keough, P. S. Lake, Bruce D. Mapstone and Gerry P. Quinn

The book is available now if you order through Cambridge University Press's UK web page - go to: http://uk.cambridge.org/biosciences/catalogue/0521771579/

Description

Monitoring Ecological Impacts provides the tools needed by professional ecologists, scientists, engineers, planners and managers to design assessment programs that can reliably monitor, detect and allow management of human impacts on the natural environment. The procedures described are well-grounded in inferential logic, and the statistical models needed to analyse complex data are given. Step-by-step guidelines and flow diagrams provide the reader with clear and useable protocols, which can be applied in any region of the world and to a wide range of human impacts.

In addition, real examples are used to show how the theory can be put into practice. Although the context of this book is flowing water environments, especially rivers and streams, the advice for designing assessment programs can be applied to any ecosystem.

Chapter Contents

Part I. Introduction to the Nature of Monitoring Problems and to Rivers: 1. Why we need well-designed monitoring programs; 2. The ecological nature of flowing waters; 3. Assessment of perturbation;
Part II. Principles of Inference and Design: 4. Inferential issues for monitoring; 5. The logical bases of monitoring design; 6. Problems in applying designs; 7. Alternative models for impact assessment;
Part III. Applying Principles of Inference and Design: 8. Applying monitoring designs to flowing waters; 9. Inferential uncertainty and multiple lines of evidence; 10. Variables that are used for monitoring in flowing waters; 11. Defining important changes; 12. Decisions and trade-offs; 13. Optimization; 14. The special case of monitoring attempts at restoration; 15. What's next?

Price: GBP 60.00 [A$200 (includes GST, plus postage/handling charge of $6.60 per order).
ISBN: 0521771579; Binding: Hardback; Pages: 446; Figures: 37 line diagrams 36 tables.
Published: 3 January 2002.

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Australia: State of the Environment 2001: Inland Waters

New release, due March 2002
168 pp; illust.
Publisher: CSIRO Publishing
Paperback AU$33.00 ISBN: 0643067507

Description

Date of availability subject to tabling of report in Parliament.

The *Australia State of the Environment (SoE) 2001* report was prepared by the independent Australian State of the Environment Committee for the Commonwealth Minister for the Environment and Heritage. The report provides an assessment of the 'big picture' of the state of Australia's environment at the beginning of the 21st century.

The *Inland Waters* theme report was commissioned to provide the technical background information for the SoE 2001 report and builds on Chapter 7 of the *Australia State of the Environment 1996* report. It provides an evaluation of the state of Australia's inland waters over the last five years.

The theme report uses a set of environmental indicators developed to identify trends and chart responses to issues related to our environment and inland waters.

This report contains a wealth of information suitable for a range of users, including students, teachers, researchers and anyone with an interest in the environment.

Seven theme reports form part of the SoE 2001 series. They are:

- Atmosphere
- Biodiversity
- Coasts and Oceans
- Human Settlements
- Inland Waters
- Land
- Natural and Cultural Heritage

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New Guidelines for Protecting Australian Waterways

Guidelines for Protecting Australian Waterways have been released by Land and Water Australia (LWA).

The guidelines were developed by a team led by the Queensland Environmental Protection Agency and MWH Australia with key support from James Cook University and Adelaide University. In developing the guidelines, workshops were held in all State capital cities and Darwin (October/November 2000) to scope the guidelines. Draft guidelines were available for review by the same audience in May-July 2001.

The guidelines document, which offers assistance in assessing values of and threats to river systems and the steps needed to protect them, consists of a conceptual framework and four guidelines (Ecological Value, Ecological Sustainability, Planning and Evaluation). They aim to assist all people with an interest in waterway conservation, development and management.
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The final guidelines are now available from Canprint Communications on (02) 6295 4444 or Freecall 1800 776 616, and can also be viewed on the LWA website at: http://www.lwa.gov.au/downloads/PR020210.pdf

To download the document from the LWA website, go to Natural Resource Management >Programs >National River Consortium, scroll down to the Guidelines, right click and save.

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New Zealand Stream Invertebrates: Ecology and Implications for Management

Edited by Kevin J. Collier & Michael J. Winterbourn

The New Zealand Limnological Society, Christchurch

ISBN 0-473-06679-3

New Zealand Stream Invertebrates is a comprehensive and readable account of the biology and ecology of invertebrate animals living in New Zealand streams and rivers. Invertebrates play key roles in the ecology of running water ecosystems and are the principal foods of fish and many water-associated birds. They are also used widely for environmental monitoring and measuring the toxicity of effluents. Although an extensive technical and scientific literature deals with many aspects of stream ecology in New Zealand, this is the first work that draws much of it together in a detailed and authoritative manner. The contributors are research scientists, academics and water managers who work with stream invertebrates.

The book comprises 15 chapters totaling over 400 pages. The first three provide an introduction to the New Zealand stream fauna, its biogeography, biodiversity, and special features, while five deal with fundamental aspects of ecology – life-histories, feeding, substrate relationships and habitat use. The last seven chapters examine applied topics including the effects of agriculture, mining, forestry, urban development, flow regulation and toxic substances on stream communities, as well as conservation issues and the role of invertebrates in stream monitoring and management.

New Zealand Stream Invertebrates: Ecology and Implications for Management includes extensive references to the original literature, comprehensive indexes and an eight page spread of colour photos. Copies of the book are available by contacting:

Book Sales
New Zealand Limnological Society
c/- NIWA, P.O. Box 11-115, Hamilton, New Zealand. (Fax: 64-7-8560151)

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FORTHCOMING CONFERENCES/WORKSHOPS

OVERSEAS

2002

The International Conference on Water Resources Management in Arid Regions, Kuwait, from 23 to 27 March. Further information by emailing: mrashed@safat.kisr.edu.kw

Shallow Lakes 2002 International Conference on Limnology of Shallow Lakes Balatonfüred, Hungary, 25 to 30 May. Web site: www.shallowlakes.hu

2nd International Conference **New Trends in Water and Environmental Engineering for Safety and Life: Eco-Compatible Solutions for Aquatic Environments**, Capri (Italy), 24 to 28 June. Additional information about the Conference, topics, modalities and registration on-line can be found at the web page: www.capri2002.com

18th International Congress on Irrigation and Drainage, Montreal (Canada), 21 to 28 July, Special Seminar on Malaria in Irrigated Agriculture. For more information contact Eline Boelee (workshop coordinator) Email: e.boelee@cgiar.org

International Peat Society Symposium "Peatland Ecology and Efficient Peat Use", Russia, Tomsk, 21 to 25 August. Register to the Symposium Chairman, via E-mail: krutikov@iom.tsc.ru

11th International European Weed Research Society Symposium on Aquatic Weeds: http://alpha.bordeaux.cemagref.fr/qebx/ewrs2002. This symposium will take place in France in September.

The New Zealand Limnological Soceity LIMSOC meets on the Wild West Coast - Shantytown, Greymouth in early November. See web page for further details: http://www.rsnz.govt.nz/clan/limsoc/

2003

3rd World Water Forum. 16 to 23 March at The Kyoto International Conference Hall, Kyoto, Japan. See: http://www.worldwaterforum.org/eng/index.html

2004

29th International Association of Theoretical and Applied Limnology 8 to 14 August. (SIL): Lahti, Finland. Website: sil2004@latkk.helsinki.fi

AUSTRALIAN

2002

Getting It Right: Guiding Principles for Natural Resource Management in the 21st Century, Adelaide Convention Centre, 11 and 12 March.

With a massive commitment by individuals, communities and government to improve the sustainability of Australia's landscapes, it is crucial that wise decisions are made about where and how to invest resources. While universities, CSIRO and Government have been working to formulate strategic solutions and responses, much of this knowledge remains inaccessible to on-ground managers. The aim of this national symposium is to draw together information from Australia's key thinkers and create a set of guiding principles. Keynote speakers will discuss biodiversity, soil degradation, water quality, the greenhouse effect, and the social, economic and political context of landscape change. Further information from the Website: www.plevin.on.net/GIR Email: events@plevin.com.au.

Land & Water Australia's **Rivers Forum 2002** will be a two-day forum (20 and 21 March), that gives participants a mix of formal thought-provoking presentations and field-based experience. The first day of the Forum, to be held at Old Parliament House, Canberra will focus on four themes: *Protecting our rivers; Planning for river protection and restoration; Rivers and rural industries;* and *Promoting and communicating our message.* The second day of the Forum is called "Researchers on a Riverbank" and will be held in the Yass region, just outside of Canberra. Brochure and registration form at: http://www.rivers.gov.au/

ENVIRO 2002 and the IWA World Water Congress, to be held at the Melbourne Exhibition and Convention Centre, 7 to 12 April. Websites www.enviroaust.net or www.iwa-2002.com

Macquarie University's River Styles (Short Course), to be held in Goulburn NSW, 29 April to 3 May. Presented by Associate Professor Gary Brierley and Ms Kirstie Fryirs, River Styles provide a catchment-framed geomorphic summary of river character and behaviour. Contact Roz Green on rgreen@mrl.mq.edu.au for an application form.

International Groundwater Conference – Balancing the Groundwater Budget presented by the International Association of Hydrogeologists, Australian National Chapter. The Conference is to be held in Darwin, 12 to 17 May. Further details on: http://www1.octa4.net.au/iahnt/conference.htm

The **27th Hydrology and Water Resources Symposium** will be held in Melbourne, from 20 to 23 May at the Hilton on the Park, Melbourne. The Symposium's theme is "The Water Challenge - Balancing the Risks." Contact the Symposium Organisers: info@convention.net.au

4th Queensland Environmental Conference Environmental Solutions ~ Meeting the Challenge in 2002 Practical and Sustainable Solutions for Government, Industry and Infrastructure - 30 and 31 May, Brisbane Convention Centre. Hosted by The Environmental Engineering Society (Qld Chapter) and The Institution of Engineers (Qld Division). Further information - Mr Keron Gaul (07) 3510 2114; Web site: http://www.eesq.com.au

The 5th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences (**Accuracy 2002**), is to be held at Rydges Carlton Hotel, 701 Swanston Street, Carlton (Vic) from 10 to 12 July. All enquiries to The Conference Organiser, Accuracy 2002 Symposium, PO Box 214, East Brunswick, Victoria 3057, E-mail: conorg@ozemail.com.au

World Congress on Aquatic Protected Areas 2002: What works best and how do we know? The inaugural World Congress on Aquatic Protected Areas will be held in conjunction with the 31st Annual Conference of the Australian Society for Fish Biology. This important event will be held 14 to 17 August in Cairns, Queensland, Australia. Further information from OzAccom Conference Services, PO Box 164, Fortitude Valley QLD 4006, Email: apa2002@ozaccom.com.au
Website: www.ozaccom.com.au/apa2002

5th World Acid Sulfate Soils Conference Sustainable management of acid sulfate soils, to be held from 25 to 30 August, at the Twin Towns Services Club and Resort, Tweed Heads New South Wales, see Website: http://www.out.at/acidsoil

Riversymposium 2002 - Fifth International River Management Symposium 3 to 6 September, at the Brisbane Convention and Exhibition Centre. The Theme for 2002 is "The Scarcity of Water - The Future of Rivers, The Future of Water".

The 2002 program includes sessions on dams, irrigation, climate change and rivers, reducing water consumption, tropical rivers, indigenous river management, conservation and management of wild river and land use impacts and salinity amongst others. Visit the website at www.riverfestival.com.au or phone Selina Ward on (07) 3846 7444 for a brochure.

Australian Entomological Society 33rd AGM & Scientific Conference, to be held in Fremantle, Western Australia from 22 to 27 September. Further information visit the web at http://aes33rdagm.tripod.com/index.htm

41st Annual Australian Society for Limnology Congress, to be held in Margaret River, Western Australia from 29 September to 3 October. Further information visit the web at: http://www.asl.org.au/ Congress Announcements.

Prospects for Biodiversity & Rivers in Salinising Landscapes. To be held in Albany, Western Australia, from 20 to 25 October. For further information email Marcus Blacklow, Conference Chairman on (08) 9386 4897 or email: mblacklo@agric.uwa.edu.au or Fax (08) 9380 1140. Sponsored by the CRC for Plant-Based Management of Dryland Salinity. Visit the website at http://www.biodiversityconference.albany.uwa.edu.au for details on the Conference and registration details.

2003

Worldwide Dragonfly Association (WDA) 3rd International Symposium of Odonatology, to be held at La Trobe University Beechworth, Victoria, from 7 to 13 January. For further information contact the Symposium Convenor: John Hawking (John.Hawking@csiro.au) or see the preliminary notice on the web page at: http://powell.colgate.edu/wda/dragonfly.htm

Australian Water Association (AWA) 20th Ozwater Convention & Exhibition *Innovations in Water*. To be held at the Burswood Resort, Perth, WA from 6 to 10 April. For further information email quitz@bigpond.com.au (Quitz Event Management), or phone (02) 9410 1302.

ASL VOLUNTEERS

The following members have volunteered to speak as experts on behalf of the ASL. If you wish to be included on the list or amend your contact details, please contact:

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Please note that ASL is not registered for GST, therefore ASL does not charge GST.

To join ASL, fill in the form below, or alternatively go to the ASL website (http://www.asl.org.au/asl_member.htm), follow the link to 'Membership application via the web'. Fill in the details on the form, including credit card details and submit.

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